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**CHEMETCO, INC.
1997 ANNUAL
RCRA GROUNDWATER REPORT**

PREPARED FOR:

**CHEMETCO, INC.
ROUTE 3
HARTFORD, ILLINOIS 62048**

MARCH 1998





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Table of Contents

1.0	Introduction	Page 1
2.0	Hydrogeologic Summary	Page 1
3.0	Monitoring Well Installation and Abandonment	Page 2
4.0	Groundwater Sampling	Page 3
5.0	Groundwater Flow Direction	Page 4
6.0	Groundwater Flow Rate	Page 4
7.0	Extent of Contamination	Page 5
8.0	Statistical Analysis	Page 6
9.0	Corrective Action Program	Page 9
10.0	Summary	Page 11

Figures

Figure 1 - Installed Monitoring Wells

Figure 2 - Abandoned Monitoring Wells

Figure 3 - Cross Sectional View of SIDS System

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List of Tables

Table 1 - Abandoned Monitoring Wells

Table 2 - Installed Monitoring Wells

Table 3 - Groundwater Monitoring Wells

Table 4 - Groundwater Flow Velocity 1997

Table 5 - Groundwater Elevations - Shallow (Perched) Aquifer 1997

Table 6 - Groundwater Elevations - Upper Regional Aquifer 1997

Table 7 - Groundwater Elevations - Lower Regional Aquifer 1997

Table 8 - Groundwater Analytical Results - Shallow (Perched) Aquifer 1997

Table 9 - Groundwater Analytical Results - Upper Regional Aquifer 1997

Table 10 - Groundwater Analytical Results - Lower Regional Aquifer 1997

Table 11 - Groundwater Analytical Results - SIDS System 1997

Table 12 - Groundwater Analytical Results - Appendix IX Metals 1997

List of Appendices

Appendix 1 - Groundwater Flow Direction for the Shallow (Perched), Upper Regional, and Lower Regional Aquifers - 1997.

Appendix 2 - Linear Regression Statistical Analysis Data for the Shallow (Perched), Upper Regional, and Lower Regional Aquifers - 1997.

Appendix 3 - SIDS System recovery records - 1997.

**CHEMETCO, INC.
HARTFORD, IL
1997 ANNUAL GROUNDWATER REPORT**

1.0 INTRODUCTION

Chemetco is an interim status RCRA facility with five RCRA waste management units. Groundwater for the facility is monitored for compliance with RCRA Subpart F Groundwater Monitoring. The groundwater monitoring program at the facility, as specified in the IEPA's April 19, 1991 Closure Plan approval letter principally meets the requirements of 35 Illinois Administrative Code (35 Ill. Adm. Code), Part 724. The purpose of this Annual Report is to comply with the regulatory requirements of 35 Ill. Adm. Code, Part 725, Subpart F.

Groundwater samples were collected from the facility in January, April, July, and October of 1997 by Environmental Analysis Inc. of Florissant MO. Samples were collected and analyzed in accordance with the Chemetco's Closure and Post-Closure Plan Modification dated October 1992 and the Revised Groundwater Monitoring Plan dated October 1997.

2.0 HYDROGEOLOGIC SUMMARY

Chemetco is located in the floodplain of the Mississippi River in an area referred to as the American Bottoms. The stratigraphy beneath the site consists of two units; an upper clay and silt unit and the regional aquifer composed of sand and gravel. The upper clay and silt unit consists of discontinuous sand and silt lenses which contain perched water above the regional aquifer. The regional aquifer consists of two zones referred to in as the upper and lower regional aquifers. The upper zone consists primarily of sand with some gravel and silt. The lower zone is comprised mainly of sand and gravel. A complete hydrogeologic description of the site can be found in Chemetco's Hydrogeologic Summary prepared by ENSR, January 1991.

Chemetco currently monitors the three hydrogeologic zones: the shallow (perched) aquifer, the upper regional aquifer and the lower regional aquifer. The perched and regional aquifers beneath the facility meet the definition of a Class I aquifer under 35 Illinois Administrative Code, Part 620.

3.0 MONITORING WELL INSTALLATION AND ABANDONMENT

Originally, 46 monitoring wells were screened in the three aquifers at the facility (22 in the shallow (perched) aquifer, 20 in the upper regional aquifer, and 4 in the lower regional aquifer). Monitoring wells 2B, 4A, 5A, 7A, 8A, 9, 10, 11A, 12, 14, 15, 16, 17, 19, 20, 21, 25, 27, 28, 30, 31A, and 41 were screened in the shallow (perched) aquifer. The wells screened in the upper regional aquifer consisted of 1A, 3A, 7, 11, 13, 22, 26, 29, 31, 32, 33, 34, 35, 37R, 38R, 40R, 42, 44R, 45, and 47R. Monitoring wells 36R, 39R, 43, and 46 were screened in the lower regional aquifer.

During May of 1997, 29 monitoring wells were abandoned at the facility. The following monitoring wells were abandoned: 1A, 2B, 3A, 4A, 5A, 7, 7A, 8A, 9, 10, 11, 11A, 13, 14, 19, 20, 21, 22, 30, 34, 35, 36, 38, 39, 40, 42, 44, 45, and 47. Thirteen wells were abandoned in shallow (perched) aquifer (2B, 4A, 5A, 7A, 8A, 9, 10, 11A, 14, 19, 20, 21, and 30). Abandoned wells in the upper regional consisted of wells 1A, 3A, 7, 11, 13, 22, 34, 35, 38, 40R, 42, 44, 45, and 47. Two wells were abandoned in the lower regional aquifer (36 and 39). Table 1 lists the monitoring wells abandoned in May of 1997. Figure 2 shows the approximate locations of the monitoring wells that were abandoned.

Fifteen new or replacement monitoring wells were also installed during the spring of 1997 (19R, 36R, 38R, 39R, 44R, 47R, 48, 49, 50, 51, 52, 53, 54, 55 and 56). Three wells were installed in the shallow (perched) aquifer (replacement well 19R and new wells 54 and 56). Three replacement wells (38R, 44R, and 47R) and five new wells (48, 49, 50, 51, and 55) were installed in the upper regional aquifer. Four wells were installed in the lower regional aquifer (replacement wells 36R and 39R and new wells 52 and 53). Table 2 lists the monitoring wells installed in May of 1997. Figure 1 shows the approximate locations of the monitoring wells that were installed.

Table 3 lists the groundwater monitoring wells for the facility. The wells in Table 3 are grouped by aquifer and by those wells which are proposed for groundwater sampling and those proposed for groundwater elevation.

4.0 GROUNDWATER SAMPLING

Groundwater samples were collected from the facility in January, April, July, and October of 1997 by Environmental Analysis Inc. (EAI) of Florissant MO. Samples were collected from the wells specified in Chemetco's Closure and Post-Closure Plan Modification dated October 1992 and the Revised Groundwater Monitoring Plan dated October 1997.

Prior to sample collection, groundwater elevation measurements were collected from the wells by EAI. All wells were properly purged and pH, temperature, and specific conductance were recorded on the recharge water before sample collection. The groundwater samples were collected in accordance with the Groundwater Sampling and Analysis Plan contained in Chemetco's Closure and Post Closure Plan dated January 1991.

Quarterly groundwater samples were analyzed for Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Tin, Zinc, pH, Specific Conductance, TOC and TOX. In addition, quarterly samples were collected from the SIDS system and analyzed for the parameters specified above. During the fourth quarter of 1997, monitoring wells 28, 31A, 38R, 44R, and 47R were also analyzed for: Antimony, Barium, Beryllium, Cobalt, Mercury, Selenium, Silver, Vanadium, and Appendix IX Semi-volatile Compounds.

5.0 GROUNDWATER FLOW DIRECTION

Groundwater elevation measurements were collected by EAI prior to sample collection. Tables 5, 6, and 7 list the groundwater elevations of the monitoring wells for the three aquifers. Appendix 1 contains maps of the groundwater flow direction for the Shallow (Perched), Upper Regional, and Lower Regional Aquifers for each quarters during 1997.

Groundwater flow direction for the Shallow (Perched) Aquifer was from north to south during all four quarters of 1997. This flow direction has remained constant for the last several years. Figures 1-1 through 1-4 in Appendix 1 provide groundwater contour maps for the Shallow (Perched) Aquifer for each quarter during 1997.

Groundwater contour (flow direction) maps for the Upper Regional Aquifer for each quarter during 1997 are provided as Figures 2-1 through 2-4 in Appendix 1. The flow direction appears to be influenced by Chemetco's on site water production wells. The production wells are used to generate process water for production at the plant. A hydrogeologic evaluation was conducted on the upper and lower regional aquifers in June of 1995 to determine the groundwater flow direction beneath the plant. The results of the hydrogeologic evaluation indicated a cone of depression exists in the upper regional aquifer from the on site production wells.

Groundwater flow direction in the Lower Regional Aquifer changes due to the natural groundwater flow reversals as the Mississippi River stage fluctuates. Quarterly changes in flow direction were observed during 1997. The flow direction during the first and third quarters (January and July) was from east to west, while the second and fourth quarters' (April and October) flow directions were from west to east. Groundwater contour maps for the Lower Regional Aquifer are provided in Appendix 1 as Figures 3-1 through 3-4.

6.0 GROUNDWATER FLOW RATE

The groundwater flow velocity was calculated quarterly for each aquifer during 1997. The 1997 quarterly groundwater velocity averages for each aquifer were calculated and are reported in ft³ per day. Table 4 lists the calculated groundwater flow velocity of each aquifer for each quarter of 1997.

7.0 EXTENT OF CONTAMINATION

Tables 8, 9, and 10 provide a list by parameter of the monitoring wells that exceeded the 35 Ill Adm. Code, Part 620 Groundwater Quality Standards for a Class I aquifer. Table 11 provides a summary of the groundwater results collected from the SIDS system, and Table 12 provides a summary of the groundwater data collected from wells 28, 31A, 38R, 44R, and 47R for Appendix IX Metals. All exceedences of the 35 Ill. Adm. Code, Part 620, Groundwater Quality Standards for a Class I aquifer are highlighted. Exceedences of the Maximum Contaminant Levels (MCL's) are not discussed since the 620 Groundwater Quality Standards are more conservative than the MCL's. The laboratory analytical results were provided in the quarterly reports for 1997.

Exceedences of the 620 Standards were found in the Shallow Aquifer for:

- Arsenic in well 31A;
- Cadmium in wells 11A, 16, 19R, 25, 27, 28, 29, 31A, and 41;
- Copper in wells 12, 16, and 31A;
- Nickel in wells 12, 16, 25, 27, 28, and 31A;
- Zinc in wells 16, 27, 28, and 31A; and
- Lead in wells 16, 19R, 28, 29, and 31A.

Exceedences of the 620 Standards were found in the Upper Regional Aquifer for:

- Arsenic in well 38R;
- Cadmium in wells 1A, 11, 26, 32R, 33, 34, 35, 37R, 44R, 47R, 48, 49, 50, and 51;
- Nickel in wells 32R and 38R; and
- Lead in wells 32R, 33, and 49.

Exceedences of the 620 Standards were found in the Lower Regional Aquifer for:

- Cadmium in wells 36R, 39R, 46, 52, and 53;
- Nickel in well 43; and
- Lead in well 39R.

An exceedence of the 620 Groundwater Standards was found for Selenium (Appendix IX Metals). Well 31A in the shallow aquifer had a minor Selenium exceedence. Matrix inferences were observed for Antimony and Beryllium in the shallow (perched) and upper regional aquifers.

All Appendix IX Semivolatile compounds were below detection limits in all of the wells sampled.

8.0 STATISTICAL ANALYSIS

A linear trend analysis was conducted on groundwater monitoring data gathered at the facility during 1992 through 1997. Twenty-three quarters of groundwater monitoring were conducted during this time period, three in 1992 (June, September, and December) and four each in 1993, 1994, 1995, 1996, and 1997. Statistical analyses were performed on monitoring wells that had more than four quarters of groundwater data. Since only two quarters of groundwater data were available for the wells that were installed in the May of 1997, statistical analyses were not conducted for wells: 48, 49, 50, 51, 52, 53, 54, 55, and 56. Appendix 2 contains the results of the Statistical Analysis conducted.

Linear trend analysis was conducted by evaluating the slope of the linear regression line for each constituent for each well. The concentration of the various constituents were compared over time. In general, if the slope is positive then the concentration trend is increasing over time. Conversely, if the slope is negative then the concentration trend is decreasing over time. If the slope is zero then the concentration trend is an equilibrium in the vicinity of that well (i.e., concentration trends are neither increasing nor decreasing).

Linear regression slope values for each constituent in each well over time were obtained using the slope command in Microsoft's EXCEL Version 5.0. These values are defined as the slope of the linear regression line through the data points. This program uses the multiple linear regression method to determine the line of best fit through the data. This line of best fit can be used to predict solute concentrations at any given time. Slope values are then obtained by dividing predicted changes in concentration over time by the change in time. Monitoring periods were consecutively numbered from 1 through 23 for purposes of statistical linear regression slope analysis.

The resulting slope values are relative to both the magnitude of the monitored parameter values (expressed in mg/L), and the time units (expressed in quarter year increments). As such, the absolute slope values are not comparable between wells, since the range of values for any given parameter may differ considerably between wells or between parameters. The only salient factor in the trend analysis is whether the relative slope value for a given well is positive, negative, or zero, representing increasing, decreasing or equilibrium trends, respectively.

The results are interpreted by evaluating trends of each monitoring parameter in each well. All of the parameters are evaluated in this context, however, the results are also interpreted in light of the waste constituents present at the facility. For example, the inorganic parameters (metals) are strongly related to the waste streams generated by the industrial processes conducted at Chemetco and, therefore, analytical results for these parameters are most significant. The analytical parameters pH and SC, are typically used as general indicators to determine whether inorganic groundwater contaminants may be present. Therefore, these are considered to be less reliable than the actual inorganic test parameters directly related to the waste streams generated at a particular facility. The least significant parameters, in terms of contaminant assessments at Chemetco, are the organic indicator parameters, TOC and TOX, which are unrelated to the industrial processes that occur at this facility.

In general, since waste streams generated by Chemetco tend to be acidic, a positive linear regression slope for pH data would indicate that the remediation system is effective in the vicinity of that well. For all other parameters, a negative trend (slope) is considered to be indicative of the effectiveness of the corrective action program on an aquifer.

The analytical laboratory, Environmental Analysis, Inc. (EAI), was unable to detect cadmium and lead below the groundwater quality standards. EAI described this phenomenon as "matrix interference." The matrix interference caused the laboratory detection limits for cadmium and lead to increase above the groundwater quality standards. For example, the groundwater quality standards for cadmium and lead are 0.005 and 0.0075 mg/L; however, with the matrix interference, the laboratory detection limits for cadmium and lead were raised above the groundwater quality standards to <0.05 mg/L.

The actual constituent levels for samples with matrix interference are not known. It is assumed that without the matrix interference that the laboratory detection limits would be at or below the groundwater quality standards for cadmium and lead. Therefore, for the purpose of statistical analysis, sample results with the matrix interference below the laboratory detection limits were assigned the value 0.005 mg/L.

Shallow (Perched) Aquifer Monitoring Wells

The linear regression analysis indicated that downgradient wells 19R, 28, 29, 31A, and 41 showed improvements in overall water quality. Downgradient wells 11A, 12 and 25 showed equal positive and negative linear regression slopes for metal concentrations. Analysis of the groundwater data from wells 16 and 27 indicated that the groundwater quality appears to be impacted. These impacted wells are located immediately downgradient of the SIDS system. As a whole, water quality in the shallow aquifer is improving.

Upper Regional Aquifer Monitoring Wells

The linear regression analysis indicated that downgradient wells 34, 37R, 44R, and 47R showed improvements in overall water quality. Downgradient wells 1A, 33, and 35 showed equal positive and negative linear regression slopes for metal concentrations. Analysis of the groundwater data from wells 11 and 26 indicated that the groundwater quality appears to be impacted. As a whole, water quality in the upper regional aquifer is improving. Laboratory matrix interference was observed in the upper regional aquifer during 1997.

Lower Regional Aquifer Monitoring Wells

Monitoring well 43 showed equal positive and negative linear regression slopes for metal concentrations. Analysis of the groundwater data from wells 36R, 39R, and 46 indicated that the groundwater quality appears to be impacted. The results of the linear regression analysis for 1997 indicate that water quality in the lower regional aquifer appears to be impacted. Laboratory matrix interference was observed in the lower regional aquifer during 1997.

Future Statistical Analysis

Up gradient, background monitoring wells were installed for the upper and lower regional aquifers during May of 1997. Monitoring well 51 serves as background well for the upper regional aquifer and the background well for the lower regional aquifer is monitoring well 52. Future statistical analysis will use the Average Replicate method to evaluate the groundwater data. Four quarters of groundwater (background) data will be collected from the background wells. The average concentration detected at background well for each aquifer will become the new benchmark or standard in which future groundwater data will be compared. The shallow (perched) aquifer does not have a designated background well since the source of the groundwater impact was up gradient of the shallow aquifer. Therefore, the class I groundwater quality standards will continue to be used as the standards in which the groundwater results from the shallow aquifer are compared. Future trend analysis for shallow (perched) groundwater will continue to use linear regression (line of best fit).

9.0 CORRECTIVE ACTION PROGRAM

Shallow (Perched) Aquifer

Groundwater in the Shallow Sand Lens identified in Figures 1-1 through 1-4 in Appendix 1 as the Western Sand Lens is collected by a subsurface interceptor trench commonly (SIDS system). The SIDS system was constructed as a passive remediation trench. Appendix 3 contains the 1997 pumping recovery records for the SIDS system.

The SIDS system was inspected monthly during 1997. During an inspection on December 1, 1997, CSD personnel inspected the collection tank, riser pipes (stick-ups) off the laterals, the flow meter, lights, and the discharge location inside the tank. The laterals were covered with water and could not be seen inside the collection tank. The riser pipes or stick-ups were then checked for standing water, and some water was observed within the riser pipes which indicated that the system was obstructed.

During the monthly inspection in December of 1997, flow was reduced in the discharge pipe from the SIDS system to the facility, and the flow meter appeared as if it was not collecting readings. Plant Maintenance Services inspected and cleaned the line from the collection tank to the discharge point within the facility. Scale build-up, which had developed on the inside of the pipe, was removed with an acid wash and forced air and water. After cleaning the pipe, the acid was neutralized, and the water from the cleaning process was collected in the ponds at the facility. Other general maintenance operations were also conducted. Light bulbs were replaced and a new flow meter was ordered.

On December 18, 1997, the system was inspected again. The laterals could be seen within the collection tank and there was not any standing water within the riser pipes, indicating the system was in normal operation.

Monthly inspections of the SIDS system during 1997 indicated that the pump was in operation, however, the flow meter appeared as if it was not collecting readings. SIDS recovery records were collected for 1997. However, due to the flow meter problem, the recovery records for 1997 were considerably less than the SIDS data collected in 1996. A possible explanation for the reduced recovery in 1997 could be attributed to the scale build up on the inside of the discharge pipe. The scale build up may have restricted the flow of the discharge pipe thereby reducing the amount water treated. These events may have backed up the SIDS system and may have damaged the flow meter which prevented it from working properly. A new flow meter was installed in late December of 1997.

Figure 3 provides a cross sectional view of the SIDS system.

Upper Regional Aquifer

Chemetco has two on site production wells that are installed in the regional aquifer to supply process water to the plant. The Hydrogeologic Evaluation Submitted in November 1995 by CSD indicated groundwater flow in the Upper Regional Aquifer is controlled by the production wells. A cone of depression was found to exist beneath the entire plant. Since the groundwater in the Upper Regional Aquifer is controlled by the production wells, corrective action is being implemented.

Lower Regional Aquifer

Corrective action of the Lower Regional Aquifer is not proposed at this time.

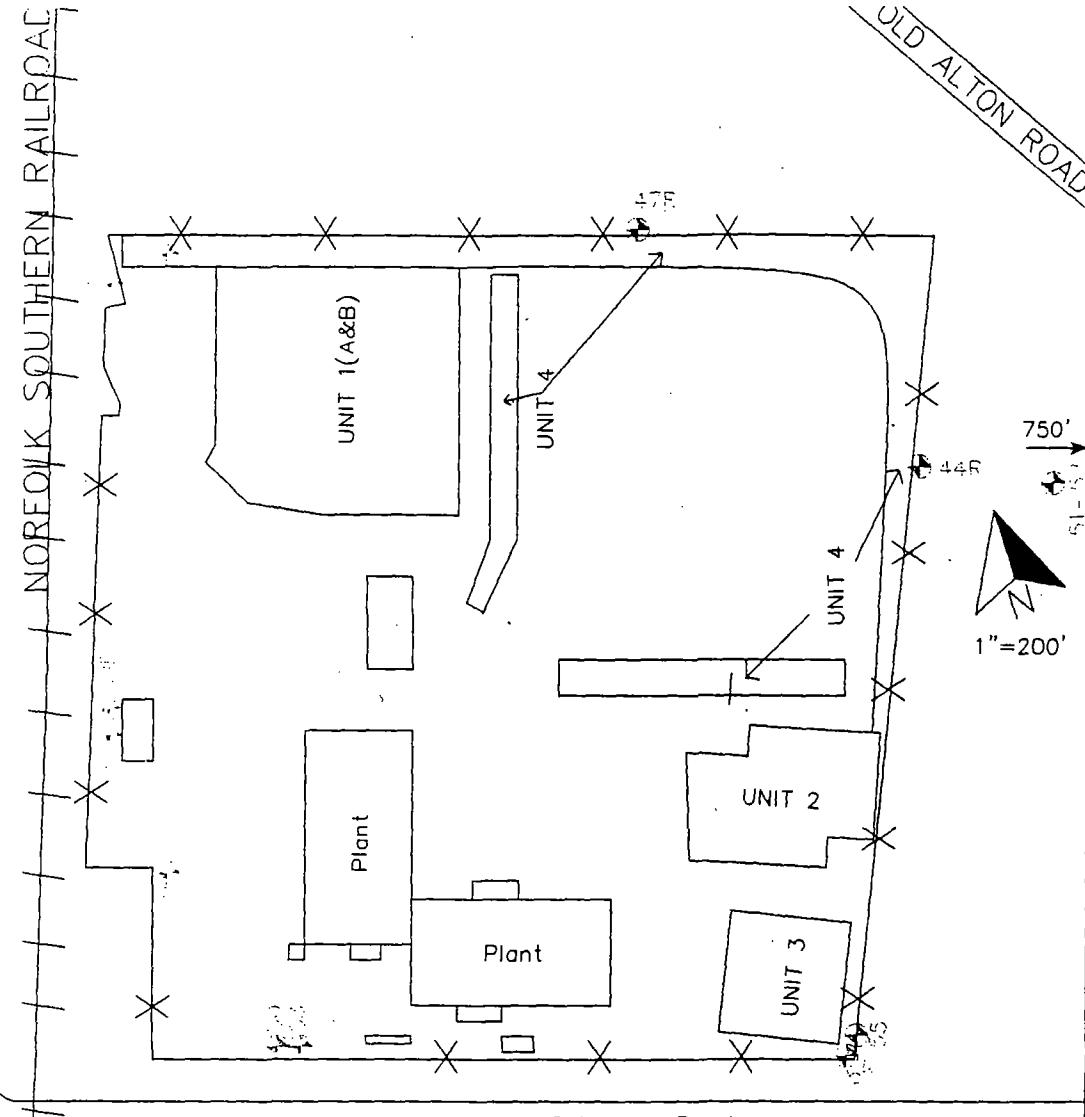
10.0 SUMMARY

Exceedences of the 620 Groundwater Standards were found in all three aquifers beneath the facility during 1997, however the majority of the contamination lies in the shallow sand lense referred to as "the western sand lense." Groundwater from the "western sand lense" is remediated by the SIDS system. Groundwater Exceedences for the shallow aquifer were found for arsenic, cadmium, copper, nickel, zinc, and lead. Exceedences of the 620 Standards were found for arsenic, cadmium, nickel, and lead in the upper regional aquifer. Exceedences were found for cadmium, nickel, and lead in the lower regional aquifer.

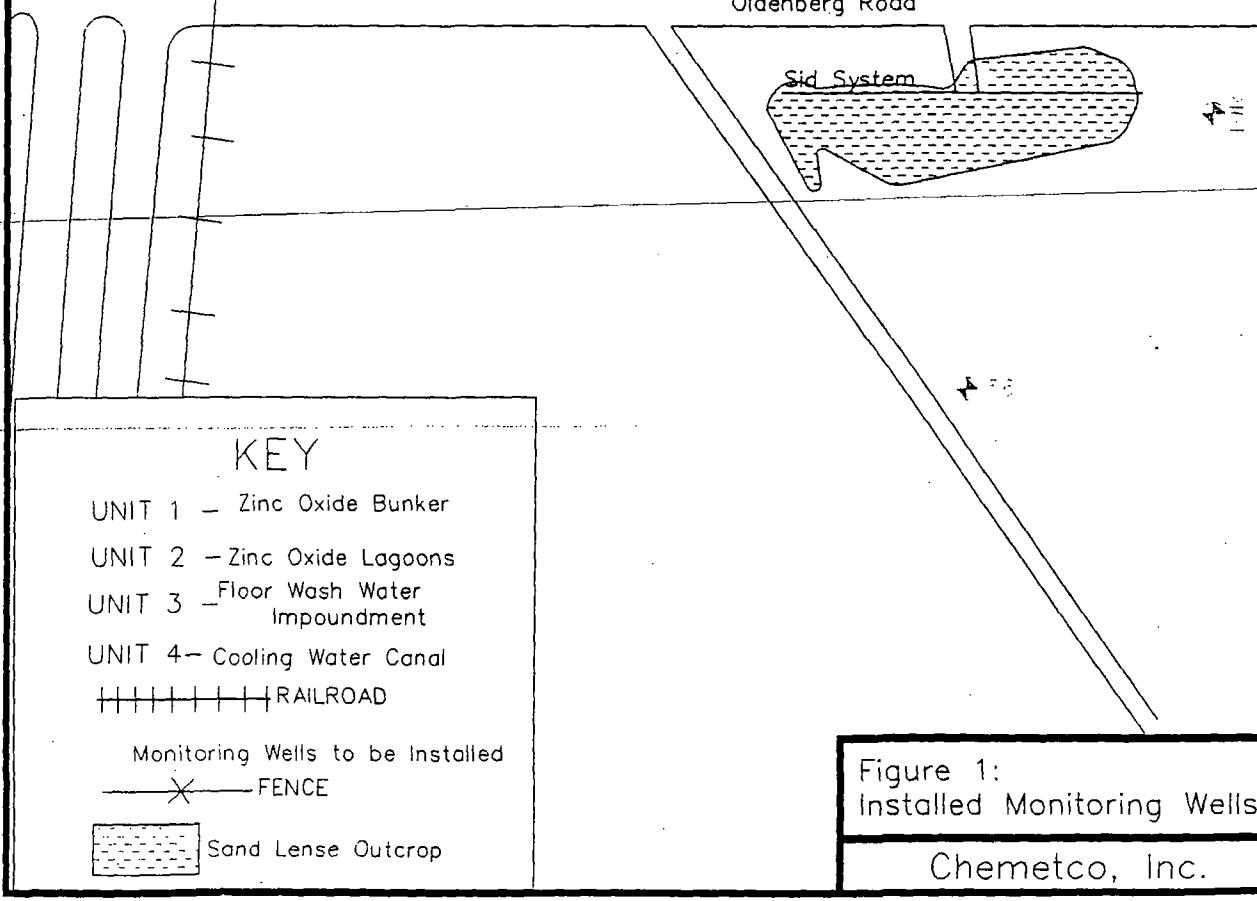
The results of the linear trend analysis for 1997 indicate that the groundwater quality is improving in the shallow (perched) and upper regional aquifers. The groundwater quality of the lower regional aquifer during 1997 appears to be impacted according to the linear trend analysis. At this time it is unknown as to whether or not these observed statistical trends in the lower regional aquifer are attributed to the raised laboratory detection limits caused by the "matrix interference" or by the natural (background) presence of metals in the aquifer. When four quarters of background data are collected perhaps, the reasoning of the statistical trends can be determined.

The results of the linear regression trend analysis indicate that the corrective action program currently in operation is effective. Chemetco will continue to quarterly collect groundwater samples in accordance with the approved Closure Plan and the Revised Groundwater Monitoring Plan. The 1998 annual groundwater report will use the average replicate test to evaluate the groundwater in the upper and lower regional aquifers. At that time, a better determination can be made as to whether or not the groundwater at the facility is representative of the regional aquifers.

ROUTE 3



Oldenberg Road



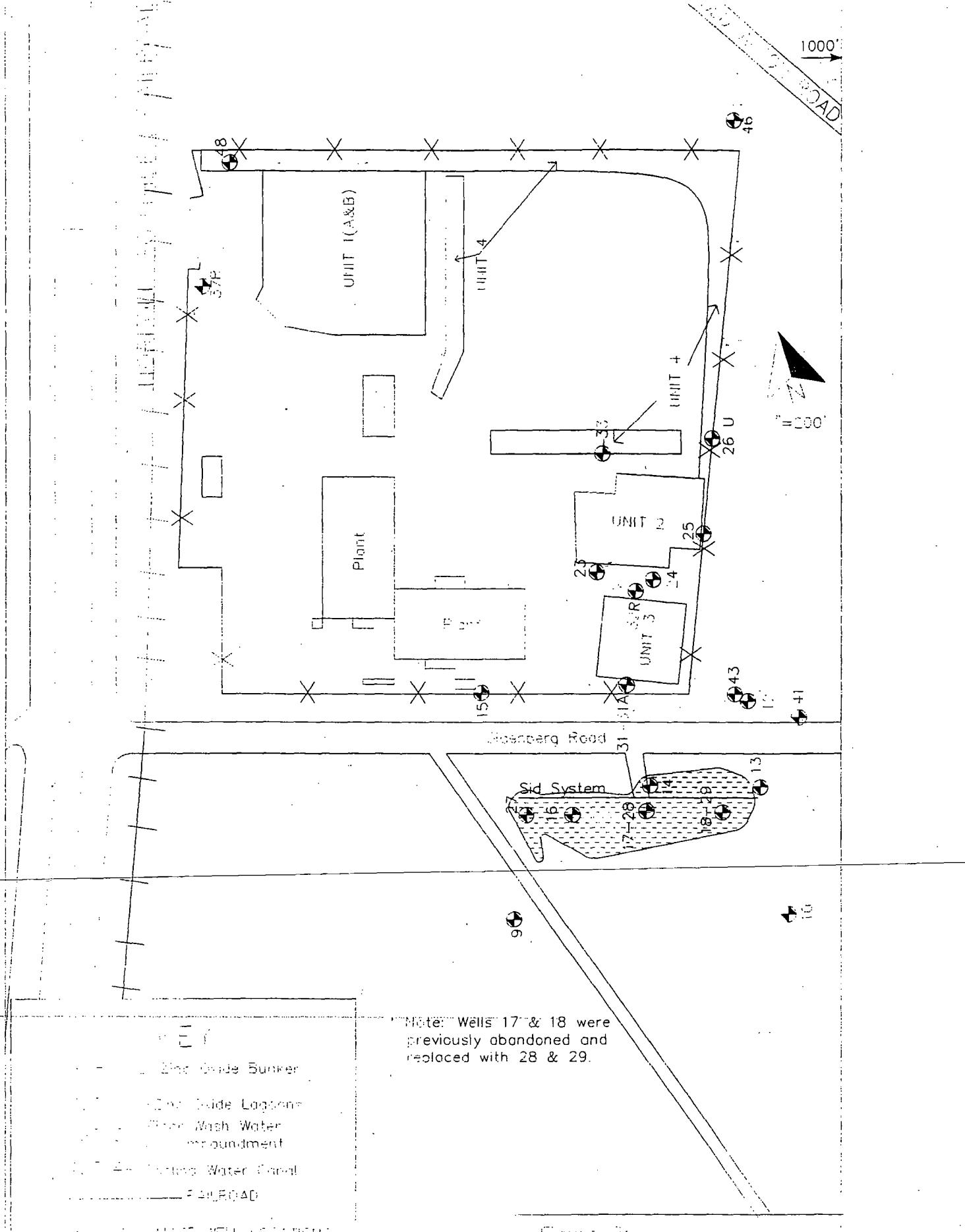


Figure 2:
Abandoned Monitoring Wells

Not to Scale

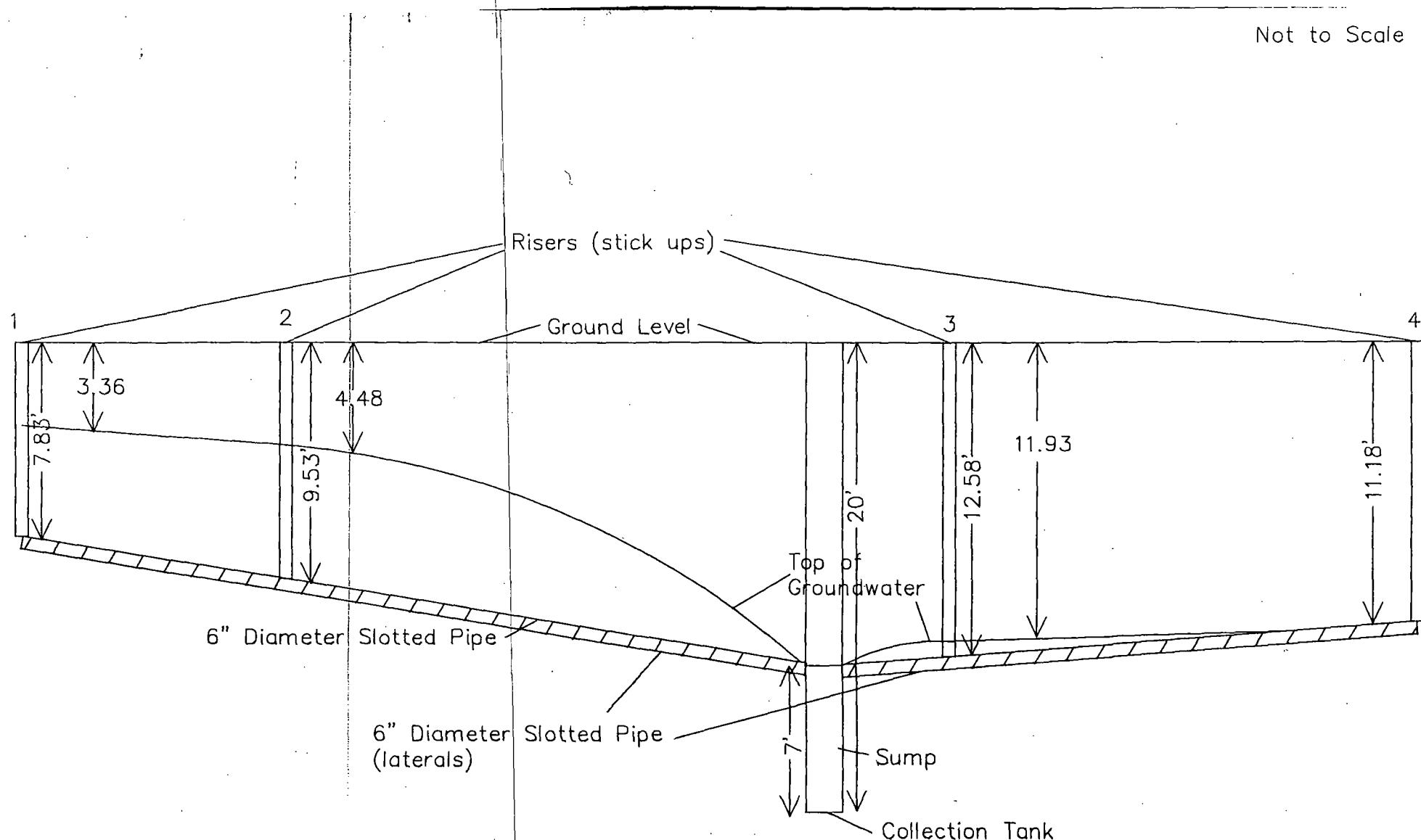


Figure 3:
Cross Sectional View of SIDS System

CSD Environmental
Services, Inc.

Chemetco, Inc.

TABLE 1
ABANDONED MONITORING WELLS
CHEMETCO, INC.

Well Number	Depth in Feet	Well Number	Depth in Feet
2B	16	14	
1A	40	19	14
3A	40	20	47
4A	15	22	33
5A	17	30	18
7	35	34	38
7A	16	35	40
8A	16	36	123
11	68	38	59
11A	15	39	117
45	38	40	40
9		42	48
10		44	30
13		47	45

TABLE 2
INSTALLED MONITORING WELLS
CHEMETCO, INC.

Well Number	Depth (ft)	Screen Length (ft)	Other
38R	59	10	flush (8") manhole
49	59	10	flush (8") manhole
36R	12	10	stick up - 5' steel
19R	15	10	stick up - 5' steel
48	45	10	stick up - 5' steel
39R	120	10	flush (8") manhole
53	120	10	flush (8') manhole
50	60	10	flush (8") manhole
51	45 to 60	10	stick up - 5' steel
52	120	10	stick up - 5' steel
54	15	10	stick up - 5' steel
55 (7R)	35	10	stick up - 5' steel
44R	32	10	stick up - 5' steel
47R	45	10	stick up - 5' steel
56	15	5	stick up - 5' steel

TABLE 3
GROUNDWATER MONITORING WELLS
CHEMETCO, INC.

AQUIFER		WELLS PROPOSED FOR GROUNDWATER SAMPLING	WELLS PROPOSED FOR GROUNDWATER ELEVATION
Shallow (Perched) Aquifer	Point of Compliance		15
		*31A	31A
		54	54
			25
	Other	27	27
		16	16
		*28	28
		29	29
		56	56
	Southeastern Quadrant		12
		19R	19R
		41	41
Regional Aquifer			
Upper Zone or Upper Regional Aquifer	Point of Compliance	37R	37R
		*38R	38R
		48	48
		49	49
		50	50
			26
			32R
			33
	Background	51	51
		55	55 ³

AQUIFER	WELLS PROPOSED FOR GROUNDWATER SAMPLING	WELLS PROPOSED FOR GROUNDWATER ELEVATION
	*44R	44R
	*47R	47R
Lower Zone or Lower Regional Aquifer	36R	36R
	39R	39R
Background	52	52
	53	53
		43
		46

*Indicates monitoring wells to be analyzed for Appendix IX metals and semi-volatiles.
 (Monitoring wells for Appendix IX Metals and semi-volatiles: 28, 31A, 38R, 44R, and 47R)

Totals - 23 wells to be sampled (15, 31A, 54, 27, 16, 28, 29, 11AR, 19R, 41, 51, 37R, 38R, 48, 49, 50, 55, 44R, 47R, 36R, 39R, 52 and 53)

TABLE 4
GROUNDWATER FLOW VELOCITY 1997
CHEMETCO, INC.

$$V = K i / n$$

Where:

V = Velocity

K = Hydraulic Conductivity (1)

i = Hydraulic Gradient (2)

n = Effective Porosity (Fetter 0.30%)

RESULTS ARE IN FT³/DAY

AQUIFER	1/97	4/97	7/97	10/97	1997 Average
SHALLOW	.75	.63	.77	.61	.69
UPPER REGIONAL	.29	.42	.73	.32	.44
LOWER REGIONAL	.77	.67	.33	1.50	.82

(1) Field determined from slug tests refer to Hydrogeologic Summary, ENSR, January 1991.

Shallow Aquifer 7.93 ft³/day (2.8×10^{-3} cm³/sec)

Upper Regional 28.35 ft³/day (1×10^{-2} cm³/sec)

Lower Regional 283.46 ft³/day (1×10^{-1} cm³/sec)

(2) Hydraulic Gradient

Shallow Aquifer

1/97 (Well 31A and 19)	.02838
4/97 (Well 31A and 19)	.02371
7/97 (Well 31A and 11A)	.0290
10/98 (Well 31A and 19R)	.0229

Upper Regional Aquifer

1/97 (Well 33 and 37A)	.00303
4/97 (Well 33 and 37A)	.00448
7/97 (Well 35 and 37R)	.0077
10/97 (Well 49 and 32R)	.00334

Lower Regional Aquifer

1/97 (Wells 46 and 36)	.00081
4/97 (Wells 46 and 36)	.000704
7/97 (Wells 46 and 43)	.00035
10/97 (Wells 39R and 43)	.00159

Table 5: Groundwater Elevation Data for Shallow (Perched) Aquifer
Chemtco, Inc.
1997 Annual Report

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
Well 11A			
January 1997	412.02	2.55	409.47
April 1997	412.02	2.16	409.86
July 1997	412.00	4.17	407.83
October 1997	*	*	*
Well 12			
January 1997	428.92	16.30	412.62
April 1997	428.92	11.25	417.67
July 1997	428.92	15.28	413.64
October 1997	428.92	16.67	412.25
Well 15			
January 1997	***	***	***
April 1997	***	***	***
July 1997	431.03	9.41	421.62
October 1997	431.03	***	***
Well 16			
January 1997	419.41	2.67	416.74
April 1997	419.41	3.93	415.48
July 1997	419.73	3.93	415.80
October 1997	419.73	3.42	416.31
Well 19 (19R)			
January 1997	418.62	10.02	408.60
April 1997	418.62	6.78	411.84
July 1997	418.96	8.76	410.20
October 1997	418.96	11.17	407.79
Well 25			
January 1997	431.40	10.44	420.96
April 1997	431.40	9.74	421.66

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	431.36	11.32	420.04
October 1997	431.36	11.67	419.69
Well 27			
January 1997	420.40	3.34	417.06
April 1997	420.40	4.70	415.70
July 1997	421.61	4.80	416.81
October 1997	421.61	3.95	417.66
Well 28			
January 1997	421.17	5.53	415.64
April 1997	421.17	5.04	416.13
July 1997	421.19	6.28	414.91
October 1997	421.19	5.98	415.21
Well 29			
January 1997	421.11	10.78	409.33
April 1997	421.11	7.54	413.57
July 1997	421.13	10.46	410.67
October 1997	421.13	11.96	409.17
Well 31A			
January 1997	435.60	14.23	421.37
April 1997	435.60	13.09	422.51
July 1997	435.54	14.65	420.89
October 1997	435.54	14.28	421.26
Well 41			
January 1997	425.35	16.11	409.24
April 1997	425.35	14.09	411.26
July 1997	425.35	14.53	410.82
October 1997	425.35	15.96	409.39
Well 54			
January 1997	**	**	**
April 1997	**	**	**

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	431.82	13.61	418.21
October 1997	431.82	13.43	418.39
Well 56			
January 1997	**	**	**
April 1997	**	**	**
July 1997	**	**	**
October 1997	412.49	4.00	408.49

All units are listed in feet.

*Well Abandoned.

** Well not Installed.

*** Well not surveyed or measurements not taken.

Table 6: Groundwater Elevation Data for Upper Regional Aquifer
Chemtco, Inc.
1997 Annual Report

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
Well 1A			
January 1997	432.24	26.93	405.31
April 1997	432.24	19.33	412.91
July 1997	*	*	*
October 1997	*	*	*
Well 3A			
January 1997	432.64	26.70	405.94
April 1997	432.64	20.45	412.19
July 1997	*	*	*
October 1997	*	*	*
Well 11			
January 1997	412.18	5.50	406.68
April 1997	412.18	1.22	410.96
July 1997	412.18	0.64	411.54
October 1997	*	*	*
Well 22			
January 1997	430.12	23.72	406.40
April 1997	430.12	18.04	412.08
July 1997	*	*	*
October 1997	*	*	*
Well 26			
January 1997	431.56	25.51	406.05
April 1997	431.56	20.03	411.53
July 1997	431.58	23.46	408.12
October 1997	431.58	26.02	405.56
Well 32R			
January 1997	438.34	32.41	405.93
April 1997	438.34	26.79	411.55

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	438.34	30.04	408.30
October 1997	438.34	32.79	405.55
Well 33			
January 1997	435.86	30.86	405.00
April 1997	435.86	24.95	410.91
July 1997	436.72	30.01	406.71
October 1997	436.72	31.27	405.45
Well 34			
January 1997	433.98	28.41	405.57
April 1997	433.98	21.69	412.29
July 1997	*	*	*
October 1997	*	*	*
Well 35			
January 1997	435.08	26.28	408.80
April 1997	435.21	19.98	415.23
July 1997	*	*	*
October 1997	*	*	*
Well 37R			
January 1997	429.67	24.46	405.21
April 1997	429.67	16.92	412.75
July 1997	429.65	21.79	407.86
October 1997	429.65	24.63	405.02
Well 38 (38R)			
January 1997	430.15	24.79	405.36
April 1997	430.15	17.51	412.64
July 1997	430.10	22.27	407.83
October 1997	430.10	25.01	405.09
Well 42			
January 1997	423.51	17.70	405.81
April 1997	423.51	11.16	412.35

Dates by Quarter	Top of Casting (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	*	*	*
October 1997	*	*	*
Well 44 (44R)			
January 1997	430.85	24.41	406.44
April 1997	430.85	18.94	411.91
July 1997	430.78	22.24	408.54
October 1997	430.78	24.88	405.90
Well 45			
January 1997	430.86	24.47	406.39
April 1997	430.86	18.84	412.02
July 1997	*	*	*
October 1997	*	*	*
Well 47 (47R)			
January 1997	432.98	27.12	405.86
April 1997	432.98	20.82	412.16
July 1997	433.40	25.09	408.31
October 1997	433.40	27.86	405.54
Well 48			
January 1997	**	**	**
April 1997	**	**	**
July 1997	430.78	22.98	407.80
October 1997	430.78	25.74	405.04
Well 49			
January 1997	**	**	**
April 1997	**	**	**
July 1997	427.50	19.65	407.85
October 1997	427.50	22.29	405.21
Well 50			
January 1997	**	**	**
April 1997	**	**	**

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	427.93	19.74	408.19
October 1997	427.93	22.62	405.31
Well S1			
January 1997	**	**	**
April 1997	**	**	**
July 1997	425.71	15.94	409.77
October 1997	425.71	18.42	407.29
Well S5			
January 1997	**	**	**
April 1997	**	**	**
July 1997	431.96	23.25	408.71
October 1997	431.96	26.08	405.88

All units are listed in feet.

*Well Abandoned.

** Well not Installed.

*** Well not surveyed or measurements not taken.

**Table 7: Groundwater Elevation Data for Lower Regional Aquifer
Chemetco, Inc.
1997 Annual Report**

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
Well 36 (36R)			
January 1997	433.64	28.30	405.34
April 1997	433.64	20.66	412.98
July 1997	430.78	22.89	407.89
October 1997	430.78	25.73	405.05
Well 43			
January 1997	431.12	24.74	406.38
April 1997	431.12	19.47	411.65
July 1997	431.04	22.49	408.55
October 1997	431.04	25.38	405.66
Well 46			
January 1997	431.22	24.79	406.43
April 1997	431.22	19.19	412.03
July 1997	431.00	22.15	408.85
October 1997	431.00	24.94	406.06
Well 39 (39R)			
January 1997	430.15	24.78	405.37
April 1997	430.12	17.41	412.71
July 1997	429.97	22.16	407.81
October 1997	429.97	24.97	405.00
Well 52			
January 1997	**	**	**
April 1997	**	**	**
July 1997	425.99	16.22	409.77
October 1997	425.99	18.70	407.29
Well 53			
January 1997	**	**	**
April 1997	**	**	**

Dates by Quarter	Top of Casing (TOC)	Depth of Groundwater (DTW)	Groundwater Elevation (GWE)
July 1997	427.91	19.76	408.15
October 1997	427.91	22.61	405.30

All units are listed in feet.

*Well Abandoned.

** Well not Installed.

*** Well not surveyed or measurements not taken.

TABLE 8
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
SHALLOW (PERCHED) AQUIFER

MW11A	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.012	<.010	.007	.07	<.005	<.1	.019	7.17	1632	16.0	.01
04/97	<.005	.008	<.010	.012	.07	<.005	.010	.045	7.04	1454	4.51	.01
07/97	<.05	.007	<.010	.019	<.05	<.005	<1.0	.040	7.11	1472	23.6	.01
10/97												
MW12	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	<.005	.040	39.2	40.9	<.006	<.1	4.26	4.16	3560	3.68	.03
04/97	<.005	<.005	<.010	43.2	38.2	<.005	<1.0	3.93	4.22	3360	.90	.01
07/97												
10/97												
MW16	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	<.005	.021	32.0	78.9	<.005	<.2	20.5	5.82	5840	15.7	.09
04/97	<.005	<.005	<.010	45.7	77.2	<.006	<.1	21.4	5.82	6210	2.95	.11
07/97	<.005	<.005	.011	59.7	66.5	.067	<5	23.4	5.61	5800	10.40	.15
10/97	<.005	.129	<.010	31.6	58.8	<.005	<.2	18.7	5.68	5660	15.3	.18

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 8 (CONTINUED)
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
SHALLOW (PERCHED) AQUIFER

MW19	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	011	<.010	.005	.06	<.005	<.1	.048	6.93	1266	20.9	<.01
04/97	<.005	.005	<.010	.014	<.05	010	<1.0	.147	6.88	1359	1.97	.02
07/97	<.05	007	<.010	.008	<.05	<.005	<1.0	.017	6.79	1156	16.1	.01
10/97	<.005	007	<.010	<.005	<.05	<.005	<.02	<.005	6.78	1272	33.1	.02
MW25	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	602	.012	.006	2.70	<.005	<.1	1.83	6.37	9980	17.1	.15
04/97	<.05	412	<.010	.006	1.45	<.006	<1.0	1.25	6.46	7840	4.10	.18
07/97												
10/97												
MW27	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	459	.055	.043	247	<.005	<.1	26.3	6.36	19570	28.4	.14
04/97	<.005	614	<.010	.023	185	<.006	<.1	16.4	6.33	16460	6.57	.34
07/97	<.05	1.19	.041	.034	167	<.005	<5	16.7	6.25	16500	12.9	.09
10/97	<.05	920	.039	.019	123	<.005	<.2	10.1	6.29	14290	32.0	.09

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 8 (CONTINUED)
CHEMETCO, INC.
1996 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
SHALLOW (PERCHED) AQUIFER

MW28	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	<.005	.024	.460	195	<.005	<.1	6.43	6.33	5940	37.3	.03
04/97	<.005	<.005	<.010	.503	180	<.005	<.1	5.95	6.52	5950	2.05	.01
07/97	<.005	<.005	<.010	.371	184	.065	<.5	4.80	6.44	5340	47.8	.06
10/97	<.005	.059	<.010	.550	188	<.005	<.2	4.63	6.30	4950	82.2	.02
MW29	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	.023	<.05	<.010	.010	.08	.008	<.01	.048	7.11	833	24.1	<.01
04/97	.024	<.005	<.010	<.005	<.05	.008	<.1	.039	6.90	845	3.59	<.01
07/97	.026	.006	<.010	.011	.05	<.05	<1.0	.045	6.86	754	25.7	.01
10/97	.016	<.005	<.010	.007	<.05	<.005	<.2	.020	6.91	848	23.2	.02
MW31A	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	467	.009	.017	252	206	211	<.1	113	3.53	4140	12.0	.02
04/97	088	.130	<.010	10.8	10.8	134	<.1	6.89	4.36	1881	1.41	.01
07/97	402	.158	.011	17.9	21.8	.26	<1	10.7	3.66	2790	4.47	.03
10/97	217	.220	<.010	22.1	22.6	118	<.2	12.7	3.51	2980	18.5	.03

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 8 (CONTINUED)
CHEMETCO, INC.
1996 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
SHALLOW (PERCHED) AQUIFER

MW41	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	012	.016	.005	<.05	.005	<.1	.029	6.91	1861	20.6	.01
04/97	<.005	<.005	<.010	.007	<.05	<.005	<1.0	.018	6.86	1943	1.93	.03
07/97	<.005	008	<.010	.009	<.05	<.005	<1.0	.012	6.81	1786	23.0	.01
10/97	<.005	006	<.010	.006	<.05	<.005	<.2	.016	6.82	1622	35.3	.02

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MW1A	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.009	<.010	.027	<.05	.007	<.1	.063	6.95	2970	16.1	.01
04/97	<.005	.006	<.010	.016	<.05	.007	<.1	.057	7.10	3090	2.49	.04
07/97												
10/97												
MW11	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.008	.010	.006	<.05	<.005	<.2	.011	7.13	504	4.52	.01
04/97	<.005	.007	<.010	<.005	<.05	<.005	<.1	.013	7.03	504	1.46	.01
07/97	<.005	<.005	<.010	.022	<.05	<.005	<.02	.036	7.27	598	3.84	<.01
10/97												
MW26	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.017	.018	.006	.07	<.005	<.1	.024	6.97	8830	2.97	.18
04/97	<.005	<.005	<.010	.007	<.05	<.006	<1.0	.035	6.88	8150	3.32	.17
07/97												
10/97												

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9 (CONTINUED)
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MW32R	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	.011	.010	.010	.086	.11	.007	<.1	.095	6.44	2890	48.4	.02
04/97	<.005	.008	<.010	.014	.09	.008	.25	.094	6.51	2440	3.94	.02
07/97												
10/97												
MW33	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.009	.010	.013	.06	<.005	<.1	.087	7.18	6670	22.6	.01
04/97	<.05	.007	<.010	.025	<.05	.014	<.1	.156	7.07	5080	3.22	.06
07/97												
10/97												
MW34	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.007	<.010	.060	<.05	<.005	<.1	.006	7.40	3240	16.0	.04
04/97	<.05	<.005	<.010	.008	<.05	<.006	<1.0	.050	7.43	3080	2.04	.09
07/97												
10/97												

* MW 32R was not installed yet. Results are in mg/l
 Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9 (CONTINUED)
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MW35	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.007	<.010	.005	<.05	<.005	<.1	.015	7.29	4220	16.7	.10
04/97	<.005	.005	<.010	.008	<.05	<.005	<1.0	.028	7.20	4350	1.20	.06
07/97												
10/97												
MW37R	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.017	<.010	<.005	<.05	<.005	<.1	.060	7.02	5370	18.6	.12
04/97	<.05	.011	<.010	.011	<.05	<.006	<.1	.047	7.05	3630	2.55	.03
07/97	<.05	.021	<.010	.025	<.05	<.005	2.2	.070	6.93	5530	12.1	.04
10/97	<.005	.017	<.010	.018	<.05	<.005	<2.0	.066	6.89	3590	24.0	.02
MW44R	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.016	.024	.011	.07	.006	<.1	.066	7.16	5830	10.3	.02
04/97	<.05	.006	<.010	.008	<.05	<.006	<.1	.036	6.93	6010	3.01	.06
07/97	<.05	.008	<.010	.011	<.05	<.005	<1.0	.059	7.11	3750	16.9	.02
10/97	<.005	.005	<.010	<.005	<.05	<.005	<.2	.009	7.06	4240	31.5	.09

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9 (CONTINUED)
CHEMETCO, INC.
1997 GROUNDWATER ANNUAL REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MW47	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	.016	.005	<.010	<.005	<.05	<.005	<.1	.011	6.97	1719	12.3	.01
04/97	<.05	.006	<.010	.008	<.05	<.006	<.1	.036	7.08	1379	3.17	.01
07/97	.05	.007	<.010	.008	<.05	<.005	<1.0	.013	7.20	946	8.50	.02
10/97	<.005	<.005	<.010	<.005	<.05	<.005	<.2	.007	7.18	884	19.0	.01
MW38R	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	.22	<.005	.093	.158	.12	<.005	<.5	.318	7.19	798	13.6	.01
10/97	<.005	<.005	<.010	<.005	<.05	<.005	<.02	.010	7.26	697	26.0	.02
MW48	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.05	.005	<.010	.007	<.05	<.005	<.05	.005	7.11	1793	5.50	.04
10/97	<.005	.013	<.010	.008	<.05	<.005	<.5	.033	6.90	1805	14.9	.02

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9 (CONTINUED)
CHEMETCO, INC.
1997 GROUNDWATER ANNUAL REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MW49	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.05	<.005	.016	.024	<.05	.010	<.5	.029	7.14	550	7.41	.01
10/97	<.005	.011	<.010	.009	<.05	<.005	<.5	.006	7.16	504	14.4	<.01
MWS0	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.05	<.005	.010	.015	<.05	.007	<.5	.017	7.04	589	12.7	.01
10/97	<.005	.011	.014	.013	<.05	<.005	<.2	.014	7.10	533	16.6	<.01
MWS1	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.05	.006	<.010	.005	.05	<.005	<1.0	.02	6.89	1165	5.62	.03
10/97	<.005	.015	.012	.018	<.05	.007	<.2	.032	6.55	1160	17.0	<.01

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 9 (CONTINUED)
CHEMETCO, INC.
1997 GROUNDWATER ANNUAL REPORT
GROUNDWATER ANALYTICAL RESULTS
UPPER REGIONAL AQUIFER

MWSS	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TGC	TOX
01/97												
04/97												
07/97	<.05	<.005	<.010	.012	<.05	<.005	<5.0	.026	6.37	3450	51.0	.03
10/97	<.005	<.005	.012	.039	.05	<.005	<.5	.023	6.40	3310	77.5	.04

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 10
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
LOWER REGIONAL AQUIFER

MW36	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	007	<.010	<.005	<.05	<.005	<.1	<.005	7.22	1217	12.1	.03
04/97	<.005	007	<.010	.010	<.05	<.006	<.1	.038	7.16	1798	1.65	.02
07/97	<.05	<.005	<.010	.011	<.05	<.005	<.5	.007	7.11	1542	12.2	.04
10/97	<.005	014	.010	.008	<.05	<.005	<.2	.007	7.11	1344	14.5	.01
MW39	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	006	<.010	<.005	<.05	<.005	<.1	.006	7.09	2160	16.3	.13
04/97	<.05	<.005	<.010	.017	<.05	<.006	<.1	.022	7.14	2280	4.13	.15
07/97	<.05	<.005	.021	.034	<.05	014	<.5	.044	6.85	2180	7.51	.15
10/97	.007	012	.019	.013	<.05	<.005	<.2	.015	7.02	1993	16.2	.11
MW43	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	<.005	<.010	.084	<.05	<.005	<.1	.008	7.02	532	3.63	.01
04/97	<.005	<.005	<.010	.182	.21	<.005	<.1	.028	7.10	544	1.08	<.01
07/97												
10/97												

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 10 (CONTINUED)
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
GROUNDWATER ANALYTICAL RESULTS
LOWER REGIONAL AQUIFER

MW46	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97	<.005	.010	<.010	<.005	<.05	<.005	<.1	<.005	7.40	494	.50	.01
04/97	<.005	<.005	<.010	<.005	<.05	<.005	<.1	.010	7.25	461	.83	<.01
07/97												
10/97												
MWS2	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.005	.006	.010	.007	<.05	<.005	<1.0	.009	7.16	407	5.00	.01
10/97	.008	.016	<.010	.008	<.05	<.005	<.2	.008	7.21	389	10.9	.01
MWS3	As	Cd	Cr	Cu	Ni	Pb	Sn	Zn	pH	Sc	TOC	TOX
01/97												
04/97												
07/97	<.005	.005	<.010	.012	<.05	<.005	<.5	.014	7.10	598	5.57	.01
10/97	<.005	.008	.011	.007	<.05	<.005	<.5	.011	7.22	531	11.1	.01

Results are in mg/l

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 11
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
SIDS ANALYTICAL RESULTS

PARAMETER	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER
As	<.005	<.05	<.005	<.05
Cd	.05	<.005	<.005	.705
Cr	.050	.003	.028	.027
Cu	55.2	47.6	60.2	7.86
Ni	47.5	74	107	136
Pb	.64	.119	.07	<.05
Sn	<1	<1.0	<1.0	<.2
Zn	20.7	21.4	22.2	32.8
pH (units)	3.95	5.39	5.55	6.69
Sc (umhos)	3480	5000	7280	9130
TOC	4.23	2.79	12.9	14.0
TOX	.06	.10	.15	.11

Results are in mg/l.

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

TABLE 12
CHEMETCO, INC.
1997 ANNUAL GROUNDWATER REPORT
APPENDIX IX METAL ANALYTICAL RESULTS

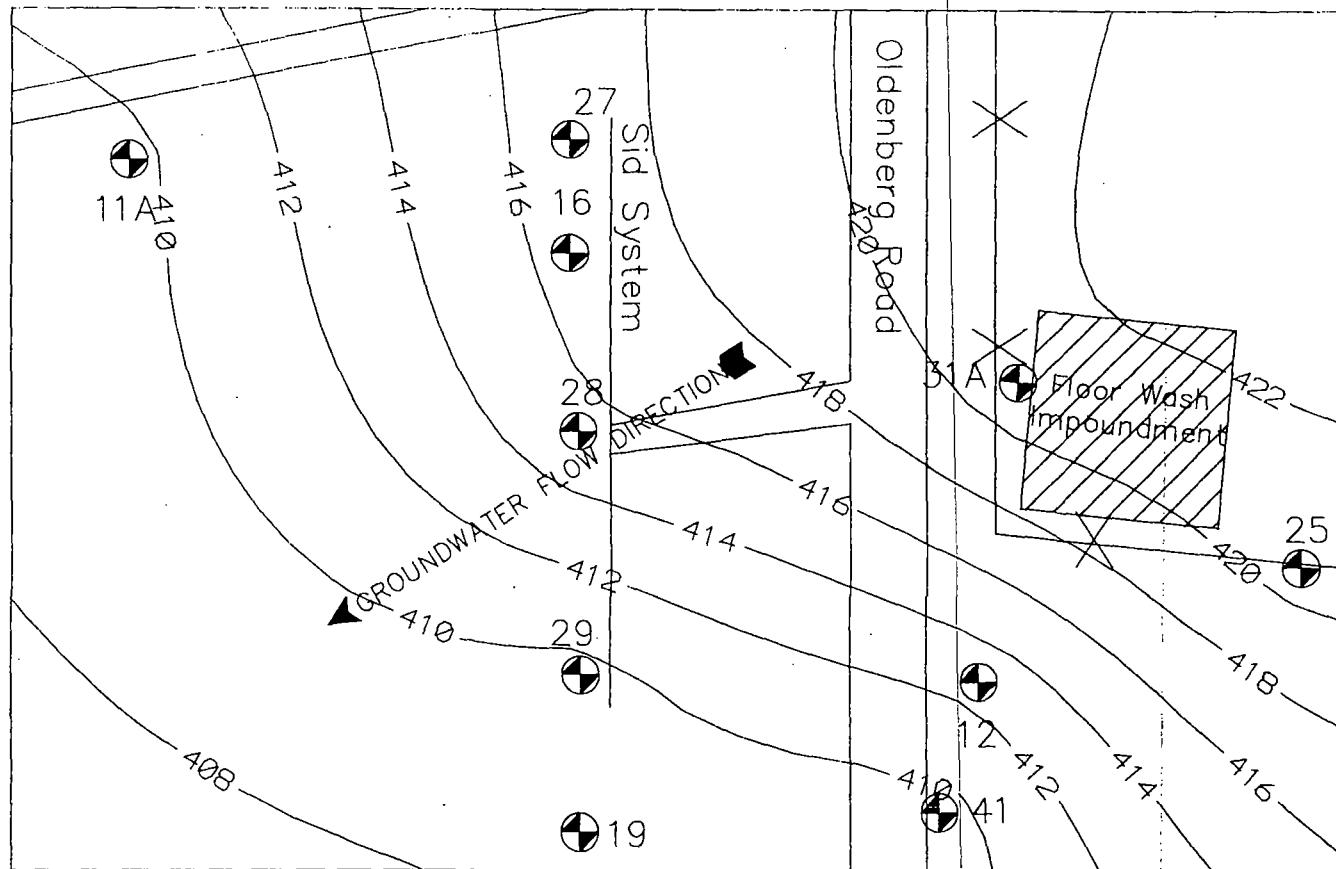
LOCATION PARAMETER	IEPA 620 Class I Groundwater Standards	Shallow Sand Lense		Upper Regional Aquifer		
		28	31A	38R	44R	47R
ANTIMONY	.006	<.02	<.02	<.02	<.02	<.02
BARIUM	2.0	.005	.020	.039	.617	.088
BERYLLIUM	.004	<.005	<.005	<.005	<.005	<.005
COBALT	1.0	.11	.08	<.05	<.05	<.05
MERCURY	.0002	<.0002	<.0002	<.0002	<.0002	<.0002
SELENIUM	.05	<.05	.054	<.05	<.005	<.008
SILVER	.05	.014	.005	.005	<.005	<.005
VANADIUM	.049	<.02	<.02	<.02	<.02	<.02

Results are in mg/l.

Samples exceeding the 620 Class I Groundwater Quality Standards are highlighted.

NORTH

SCALE: 1"=200'



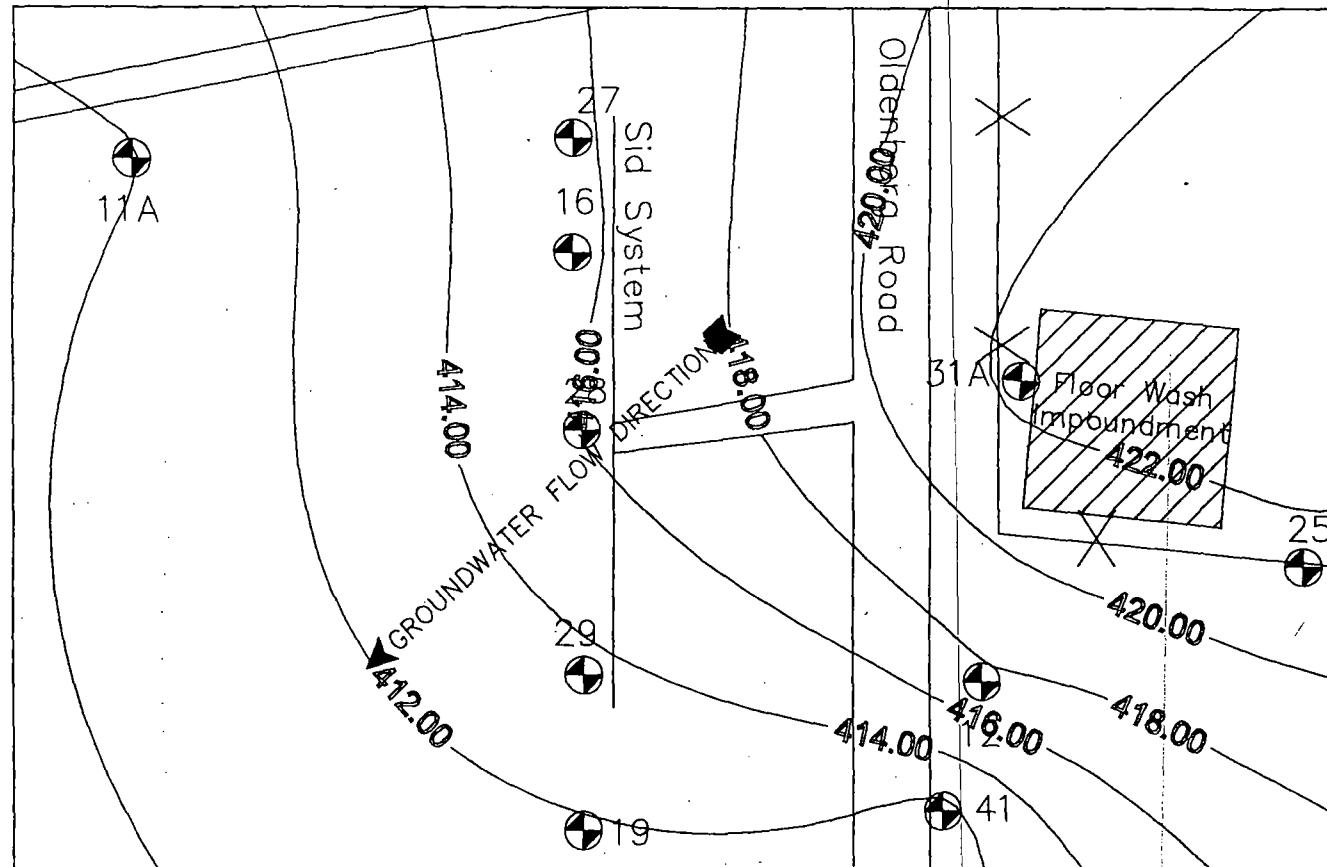
CHEMETCO INC.
HARTFORD, IL.

FIGURE 1-1
GROUNDWATER FLOW DIRECTION
FOR THE SHALLOW AQUIFER
JANUARY 1997

CSD ENVIRONMENTAL
SERVICES, INC.

~~NORTH~~

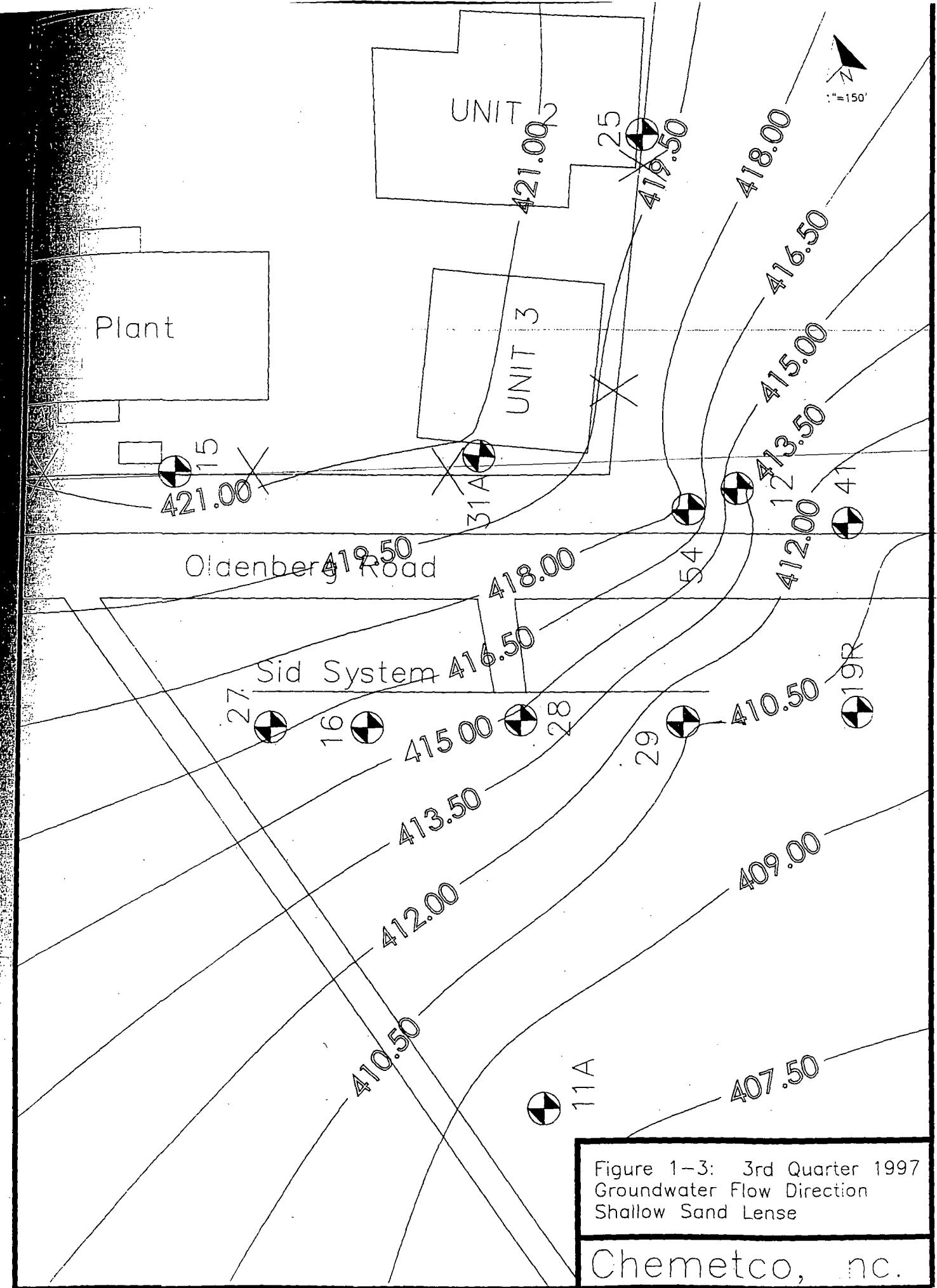
SCALE: .1"=200'



CHEMETCO INC.
HARTFORD, IL.

FIGURE 1-2
GROUNDWATER FLOW DIRECTION
FOR THE SHALLOW AQUIFER
APRIL 1997

**CSD ENVIRONMENTAL
SERVICES, INC.**



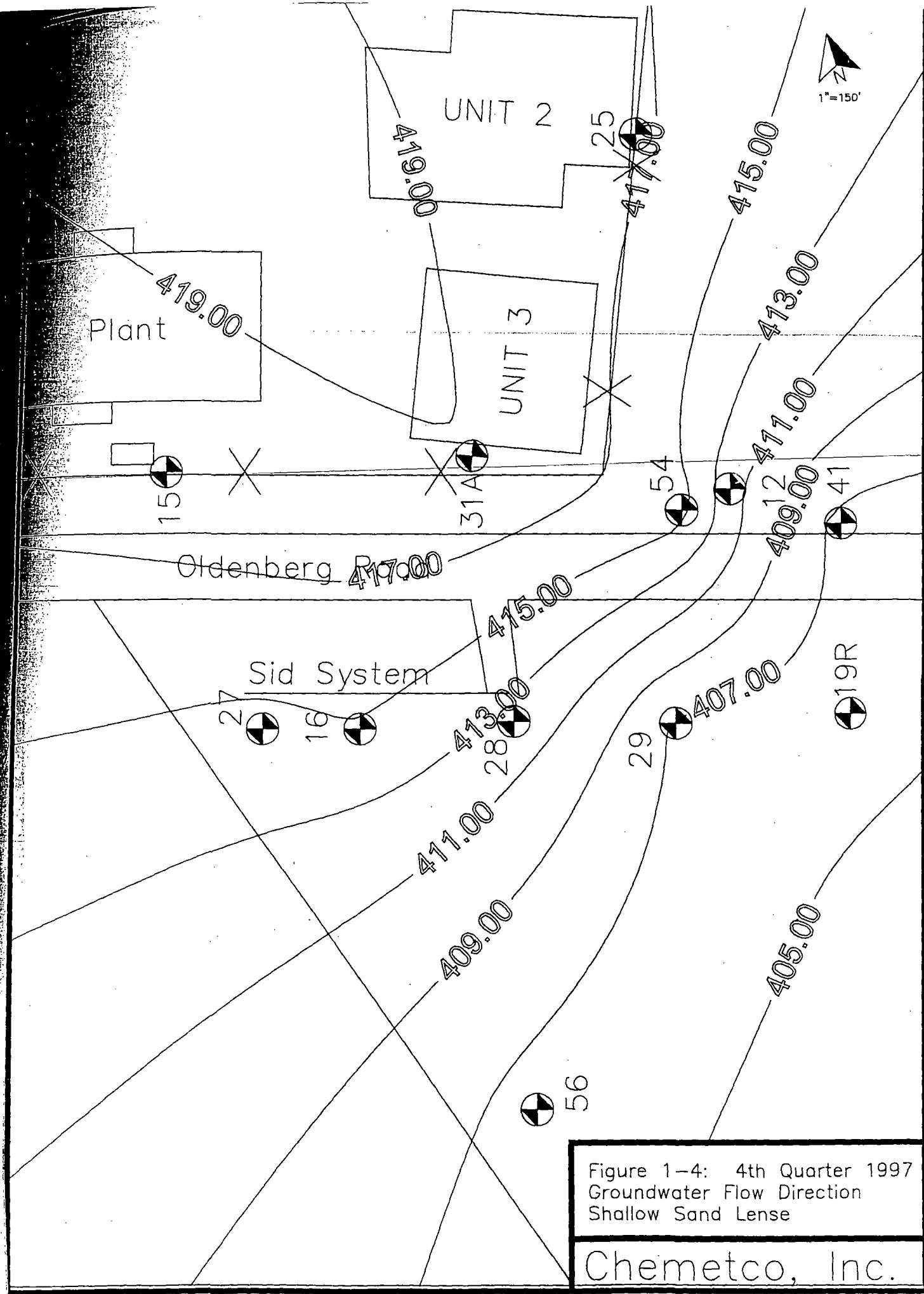
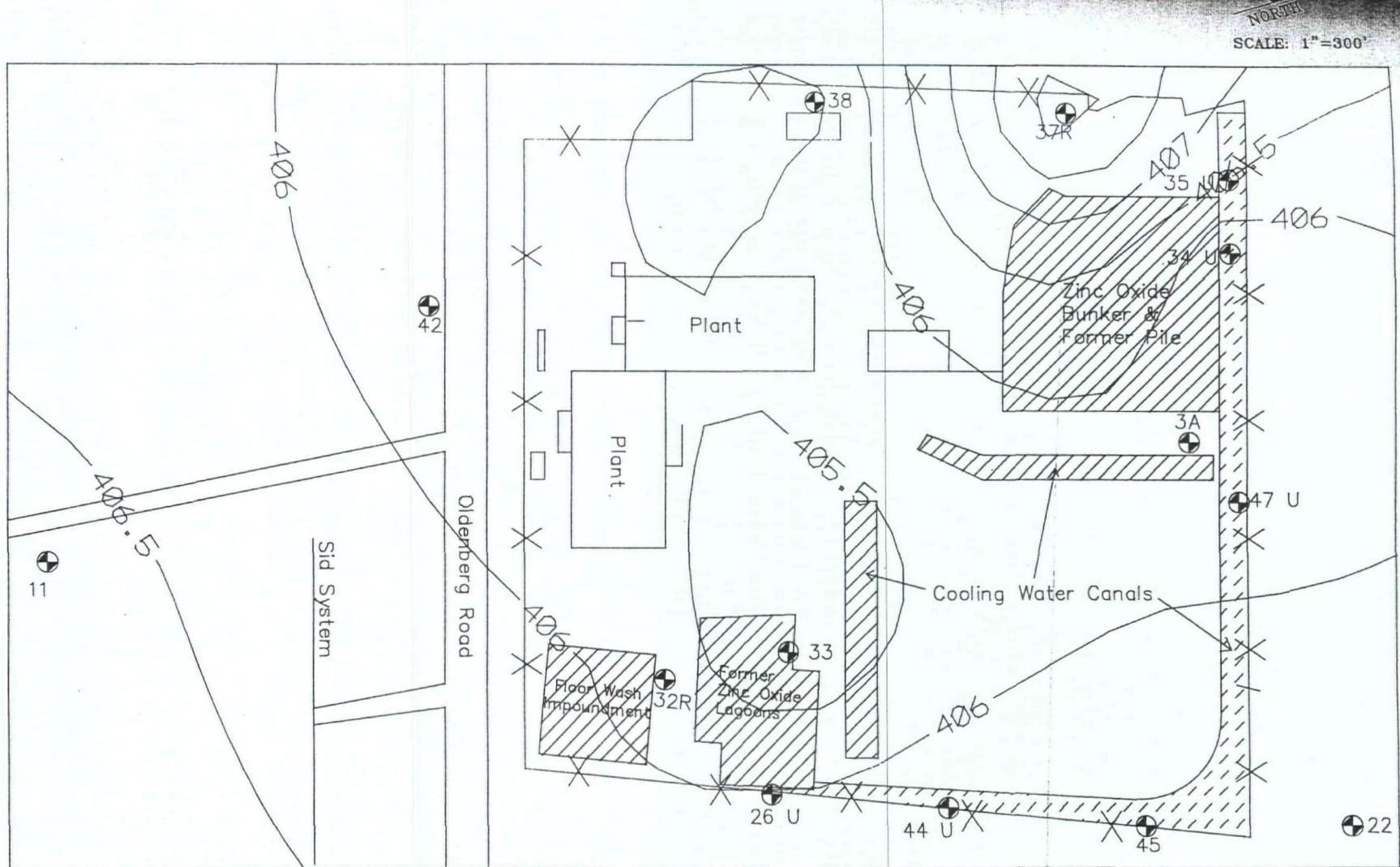


Figure 1-4: 4th Quarter 1997
Groundwater Flow Direction
Shallow Sand Lense

Chemetco, Inc.

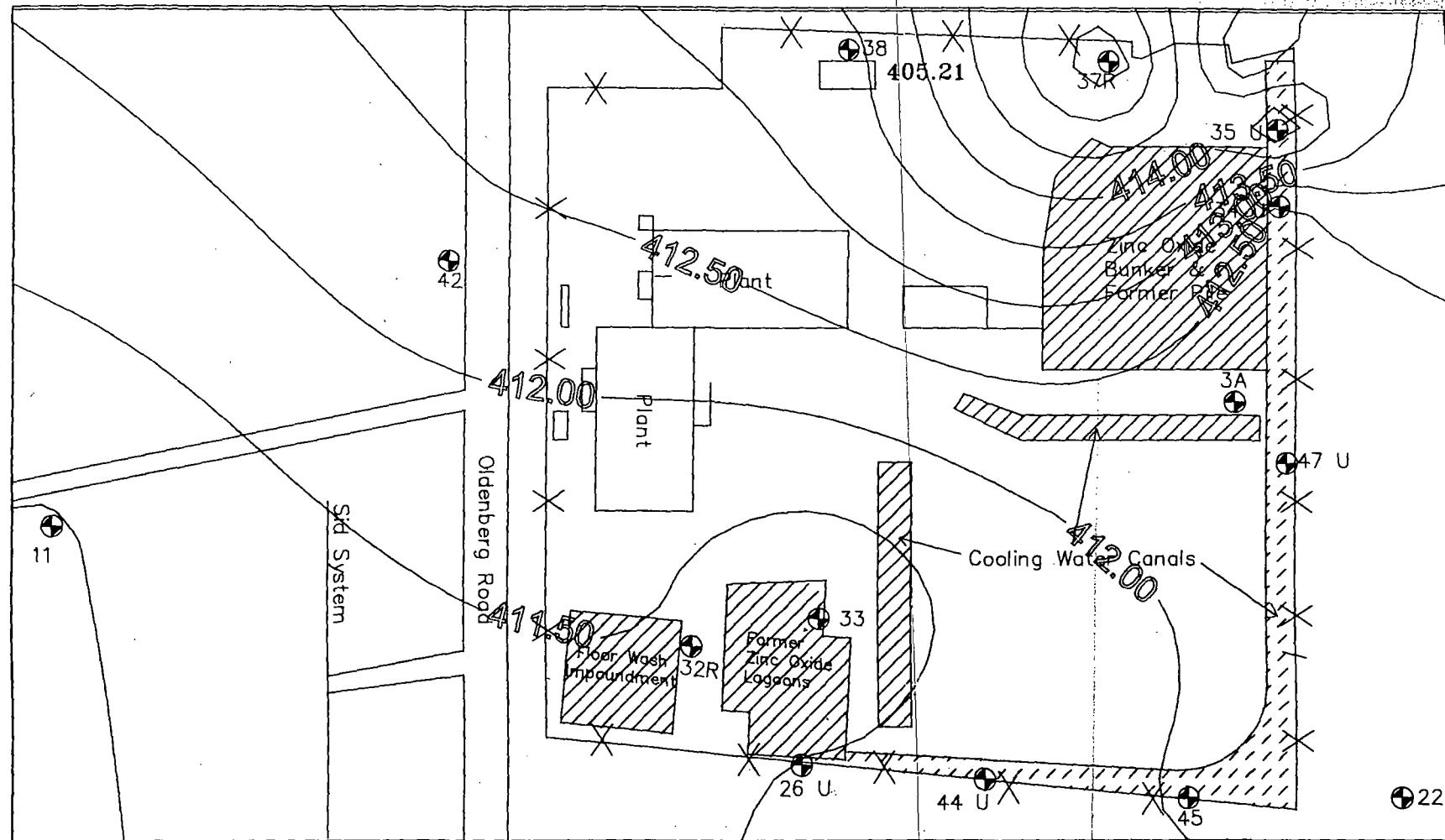


CHEMETCO INC.
HARTFORD, IL.

FIGURE 2-1
GROUNDWATER FLOW DIRECTION
FOR THE UPPER REGIONAL AQUIFER
JANUARY 1997

CSD ENVIRONMENTAL
SERVICES, INC.

SCALE: 1" = 300'



CHEMETCO INC.
HARTFORD, IL.

FIGURE 2-2
GROUNDWATER FLOW DIRECTION
FOR THE UPPER REGIONAL AQUIFER
APRIL 1997

CSD ENVIRONMENTAL
SERVICES, INC.

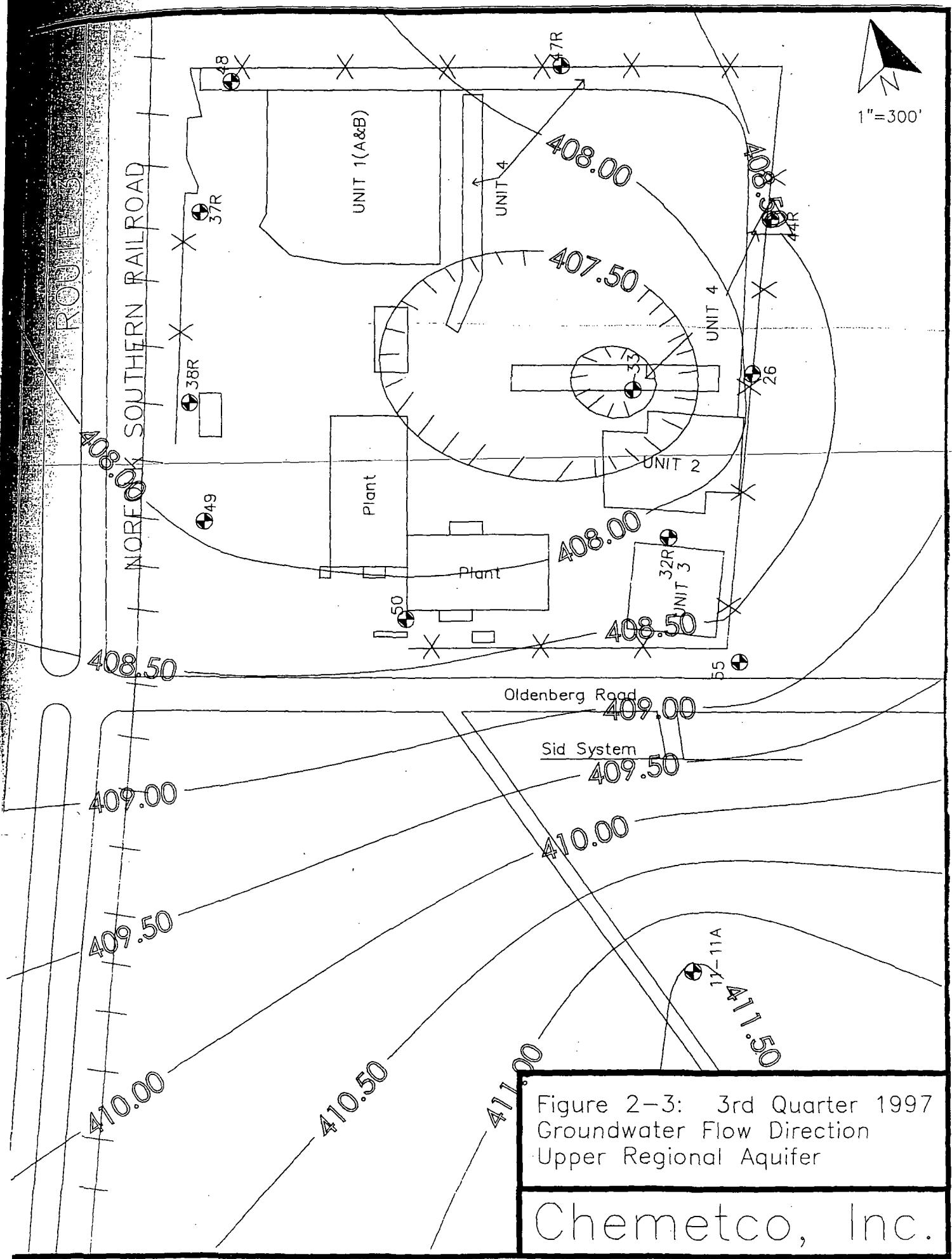


Figure 2-3: 3rd Quarter 1997
Groundwater Flow Direction
Upper Regional Aquifer

Chemetco, Inc.

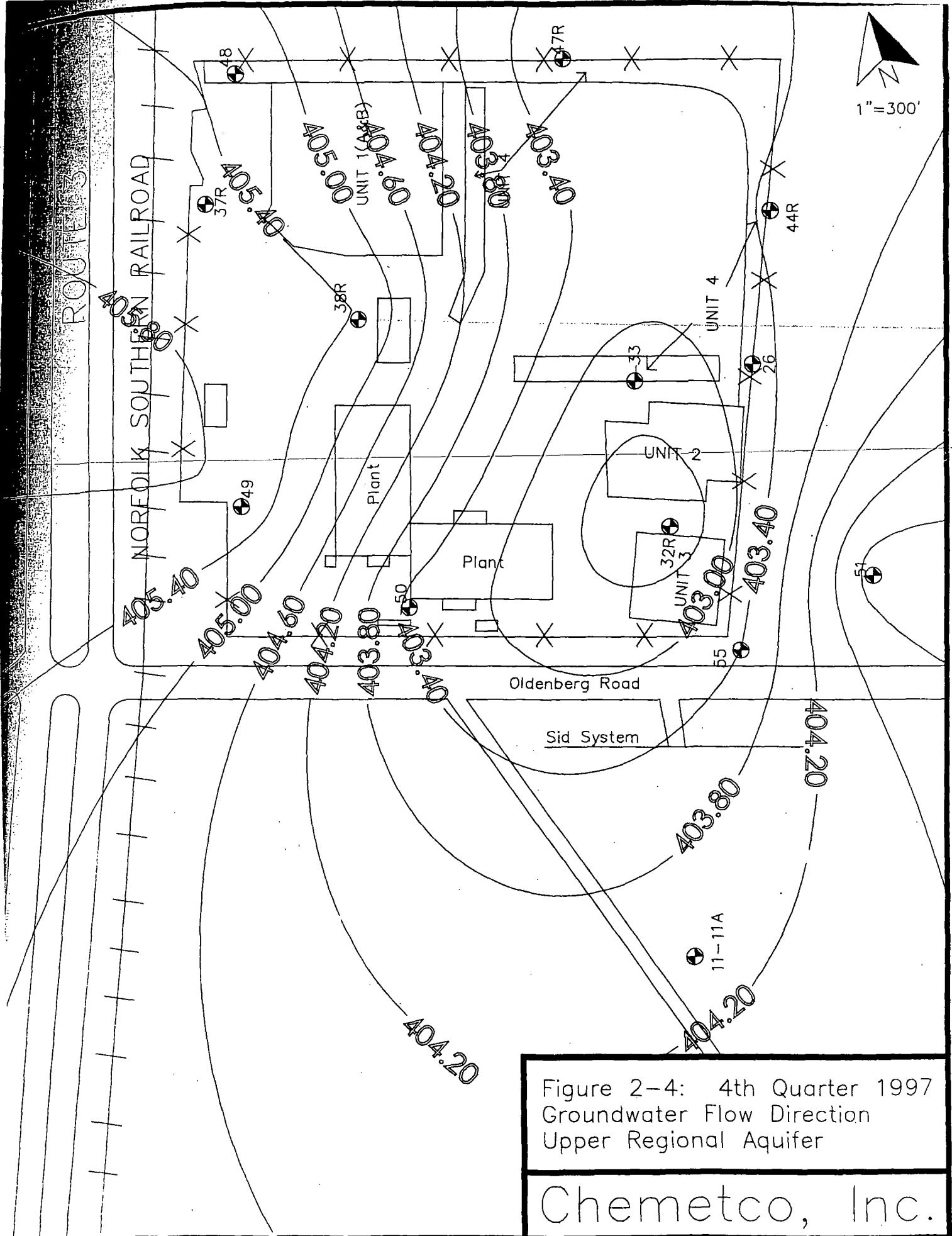
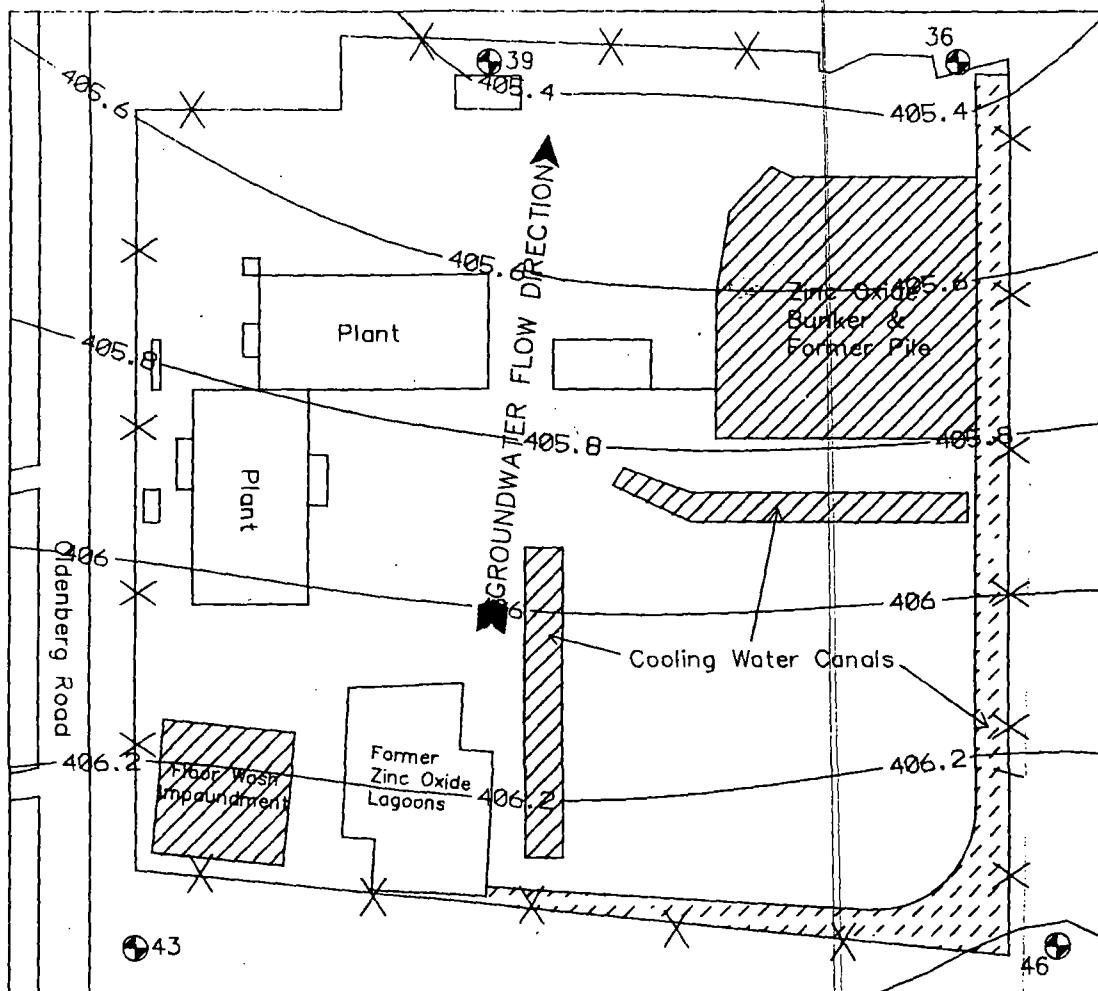


Figure 2-4: 4th Quarter 1997
Groundwater Flow Direction
Upper Regional Aquifer

Chemetco, Inc.

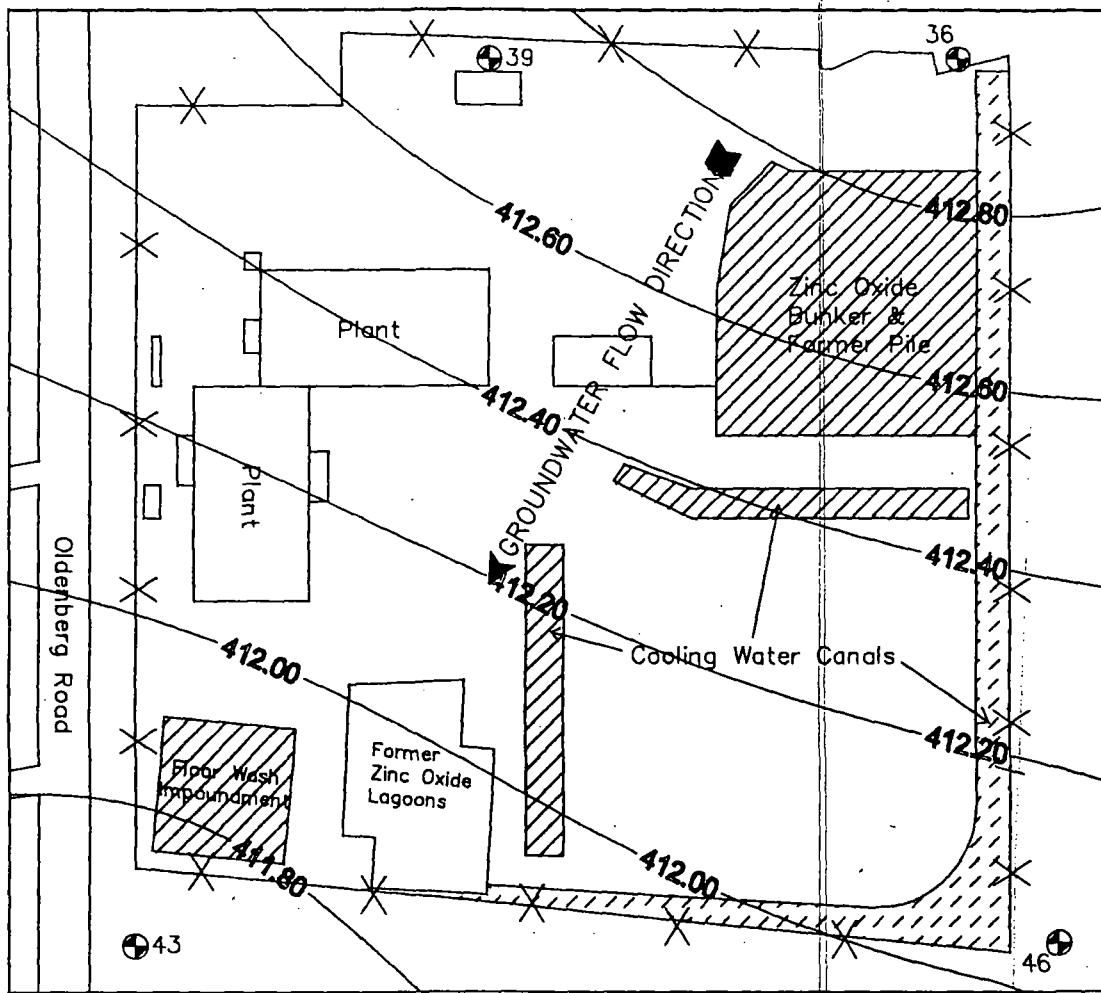


CHEMETCO INC.
HARTFORD, IL.

FIGURE 3-1
GROUNDWATER FLOW DIRECTION
FOR THE LOWER REGIONAL AQUIFER
JANUARY 1997

CSD ENVIRONMENTAL
SERVICES, INC.

SCALE: 1" = 300'



CHEMETCO INC.
HARTFORD, IL.

FIGURE 3-2
GROUNDWATER FLOW DIRECTION
FOR THE LOWER REGIONAL AQUIFER
APRIL 1997

CSD ENVIRONMENTAL
SERVICES, INC.

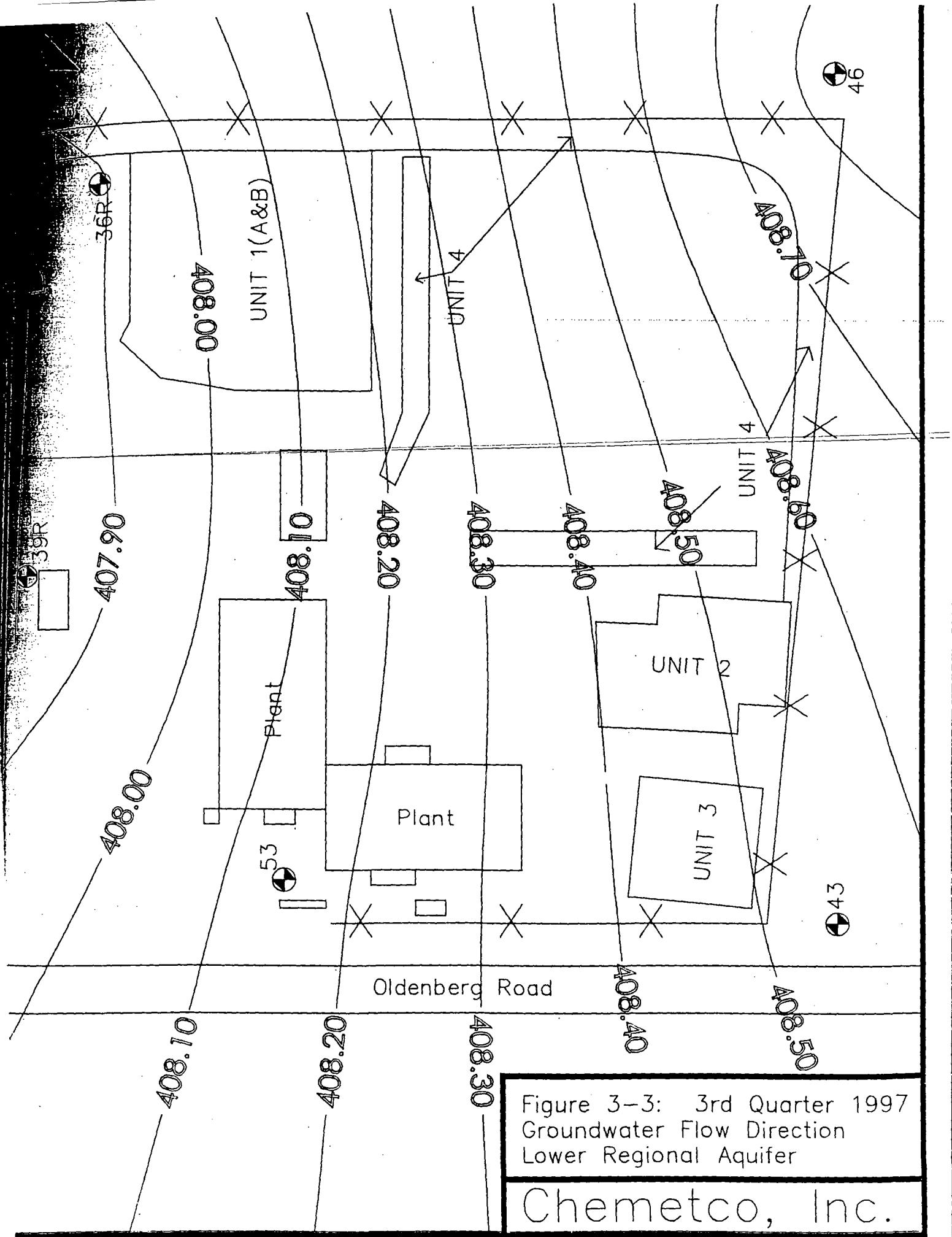


Figure 3-3: 3rd Quarter 1997
Groundwater Flow Direction
Lower Regional Aquifer

Chemetco, Inc.

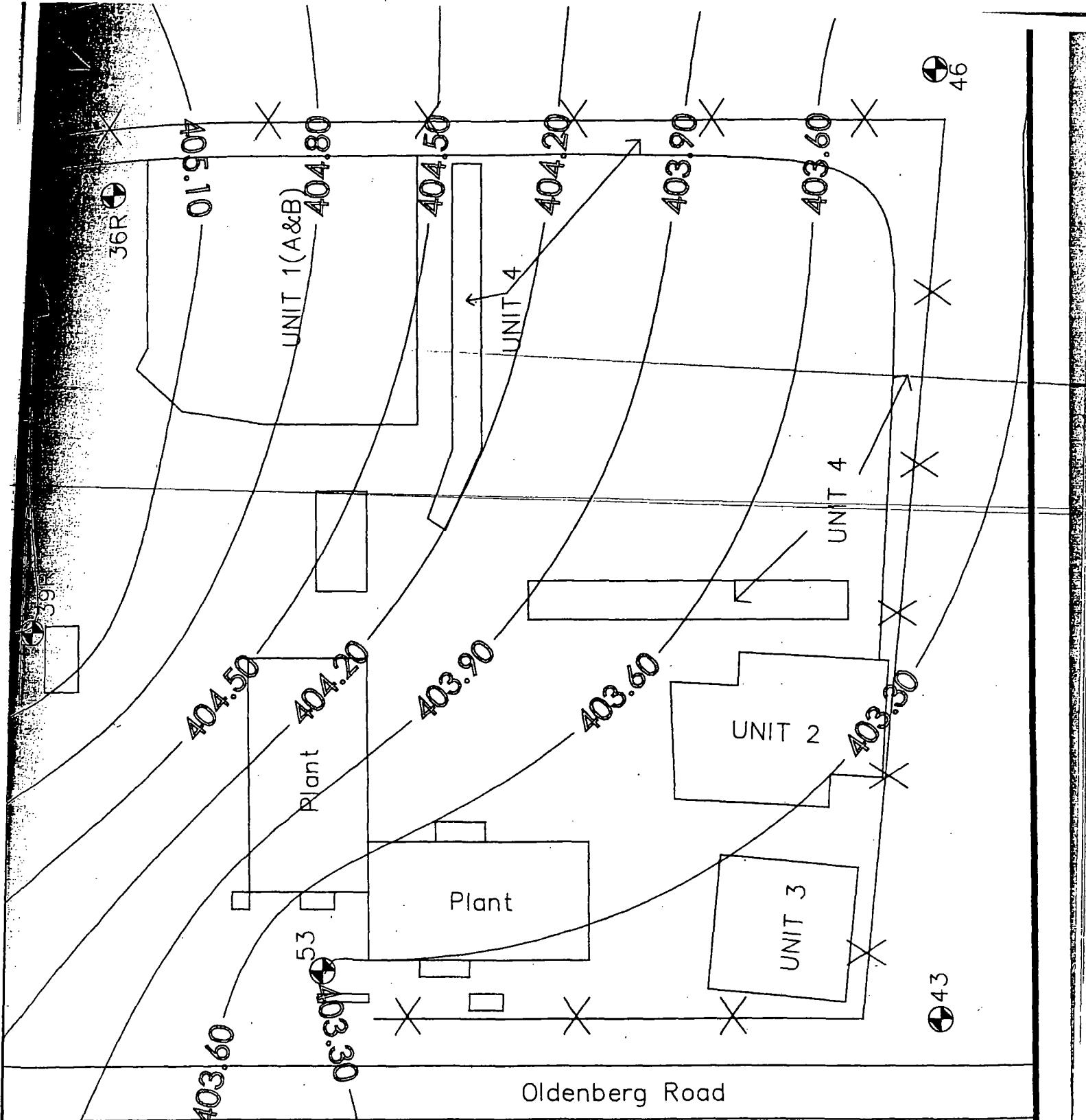


Figure 3-4: 4th Quarter 1997
Groundwater Flow Direction
Lower Regional Aquifer

Chemetco, Inc.

Monitoring Well 11												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.005	0.02	0.0025	23.1	0.03	0.047	6.73	2010	
2	0.0025	0.0025	0.005	0.025	0.01	0.007	12.7	0.005	0.012	6.95	2190	
3	0.0025	0.0025	0.005	0.01	0.0025	0.025	20.4	0.01	0.0025	6.93	799	
4	0.0025	0.0025	0.005	0.014	0.033	0.01	5.32	0.005	0.01	7.21	546	
5	0.0025	0.0025	0.005	0.011	0.0025	0.01	5.68	0.005	0.007	7.28	491	0.025
6	0.0025	0.0025	0.005	0.006	0.00575	0.01	8.945	0.005	0.0025	7.09	343	0.025
7	0.0025	0.0025	0.005	0.0025	0.0025	0.01	10.3	0.005	0.0025	7.21	486	0.025
8	0.0025	0.0025	0.005	0.036	0.01	0.01	25.2	0.01	0.078	7.12	1130	0.13
9	0.0025	0.0025	0.005	0.007	0.0025	0.01	22	0.005	0.013	6.79	395	0.025
10	0.005	0.0025	0.005	0.024	0.034	0.0025	3.98	0.01	0.089	7.22	454	0.025
11	0.012	0.0025	0.005	0.035	0.031	0.01	4.93	0.01	0.116	7.65	1443	0.025
12	0.0025	0.0025	0.005	0.01	0.025	0.0025	2.54	0.005	0.022	7.22	5.07	0.025
13	0.0025	0.0025	0.005	0.005	0.025	0.0025	4.11	0.005	0.018	7.27	478	0.025
14	0.0025	0.0025	0.005	0.006	0.07	0.011	10.3	0.01	0.014	7.32	483	0.07
15	0.0025	0.0025	0.005	0.0025	0.025	0.0025	8.07	0.005	0.0025	7.25	509	0.025
16	0.0025	0.0025	0.005	0.005	0.005	0.02	10.2	0.01	0.006	6.8	501	0.025
17	0.0025	0.0025	0.005	0.005	0.005	0.007	5.63	0.01	0.007	6.93	469	0.025
18	0.0025	0.0025	0.005	0.022	0.005	0.02	3.84	0.01	0.036	7.27	598	0.025
19	0.0025	0.0025	0.005	0.005	0.005	0.01	3.92	0.01	0.005	7.15	482	0.025
20	0.005	0.008	0.01	0.006	0.005	0.2	4.52	0.01	0.011	7.13	504	0.05
21	0.005	0.007	0.01	0.005	0.005	0.1	1.46	0.01	0.013	7.03	504	0.05
22	0.005	0.005	0.01	0.022	0.005	0.02	3.84	0.01	0.036	7.27	598	0.05
23												
mean	0.003386	0.003068	0.005682	0.012227	0.01517	0.022841	9.135682	0.008864	0.025	7.128182	700.8214	0.0375
sd	0.00216	0.001538	0.001756	0.010322	0.016549	0.0444	7.166367	0.00533	0.03117	0.211584	531.4413	0.026693
var	4.67E-06	2.36E-06	3.08E-06	0.000107	0.000274	0.001971	51.35682	2.84E-05	0.000972	0.044768	282429.8	0.000713
slope	7.09E-05	0.000131	0.000161	-0.000222	-0.000187	0.00296	-0.649732	-6.49E-05	-0.000291	0.007374	-39.53807	1.55E-05

Monitoring Well 11A												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.0025	0.006	0.0025	5.78	0.005	0.016	7.23	555	
2	0.0025	0.0025	0.005	0.035	0.009	0.006	32	0.02	0.035	6.97	561	
3	0.0025	0.0025	0.005	0.028	0.008	0.025	46.4	0.01	0.039	6.92	363	
4	0.0025	0.0025	0.005	0.03	0.008		12.3	0.01	0.036	7.18	1860	
5	0.0025	0.0025	0.005	0.051	0.005	0.08	6.59	0.01	0.073	6.9	1140	0.08
6	0.015	0.0025	0.005	0.05	0.027	0.08	12.6	0.005	0.089	6.84	456	0.08
7	0.016	0.0025	0.005	0.033	0.017	0.11	23.8	0.01	0.05	6.91	519	0.11
8	0.0025	0.0025	0.005	0.036	0.01	0.01	25.2	0.01	0.078	7.12	1130	0.013
9	0.0025	0.0025	0.005	0.027	0.015	0.01	9.98	0.01	0.135	5.47	708	0.06
10	0.006	0.0025	0.005	0.016	0.007	0.0025	28.2	0.01	0.025	6.97	1118	0.025
11	0.0025	0.0025	0.005	0.029	0.0025	0.01	19.4	0.005	0.037	7.25	1123	0.025
12	0.0025	0.0025	0.005	0.015	0.0025	0.0025	19.3	0.01	0.052	6.83	1494	0.025
13	0.0035	0.0025	0.005	0.018	0.007	0.0025	10.8	0.01	0.048	6.9	1319	0.025
14	0.0025	0.0025	0.005	0.011	0.0025	0.008	19.2	0.01	0.019	7.09	1037	0.025
15	0.0025	0.0025	0.005	0.007	0.005	0.005	20.1	0.01	0.066	6.9	1495	0.025
16	0.0025	0.0025	0.005	0.019	0.005	0.1	8.1	0.02	0.045	6.86	17.25	0.025
17	0.0025	0.0025	0.005	0.007	0.007	0.01	10	0.01	0.018	6.94	1533	0.025
18	0.0025	0.0025	0.005	0.019	0.006	0.02	10.7	0.01	0.039	7.11	888	0.025
19	0.0025	0.0025	0.005	0.005	0.005	0.01	20.4	0.01	0.005	7.06	1516	0.025
20	0.005	0.012	0.01	0.007	0.005	0.1	16	0.01	0.019	7.17	1632	0.07
21	0.005	0.008	0.01	0.012	0.005	0.01	4.51	0.01	0.045	7.04	1454	0.07
22	0.05	0.007	0.01	0.019	0.005	1	23.6	0.01	0.04	7.11	1472	0.05
23												
mean	0.006273	0	0.005682	0.021659	0.007705	0.076381	17.49818	0.010227	0.045864	6.944091	1063.193	0.0435
sd	0.010482	0.002425	0.001756	0.013759	0.005601	0.21496	9.980378	0.003611	0.029016	0.353535	491.6239	0.027821
var	0.00011	5.88E-06	3.08E-06	0.000189	3.14E-05	0.046208	99.60795	1.3E-05	0.000842	0.124987	241694.1	0.000774
slope	0.000464	0.000204	0.000161	-0.001202	-0.000342	0.011862	-0.396251	3.67E-05	-0.001106	0.005968	34.93295	-0.001407

Monitoring Well 12												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1							4.7					
2							4.56					
3							10.4					
4	0.0025	0.068	0.005	30.8	0.007	0.01	4.2	0.01	3.29			
5	0.0025	0.105	0.011	50.3	0.006	0.01	2.75	0.01	4.23	4.46	3020	46
6	0.0025	0.077	0.01	39.8	0.007	0.01	3.54	0.01	3.67	4.46	3020	35
7	0.0025	0.1	0.01	52.2	0.004	0.01	6.15	0.01	4.44	4.78	2840	44
8	0.0025	0.101	0.011	52.2	0.003	0.01	3.71	0.01	4.5	4.48	3280	46
9	0.0025	0.113	0.005	46.4	0.008	0.01	5.79	0.005	4.16	4.48	1478	48
10	0.0025	0.132	0.005	50.4	0.0085	0.0025	2.57	0.01	4.97	4.26	25.3	49.4
11	0.0025	0.095	0.022	42.2	0.005	0.01	2.15	0.02	3.6	4.75	1963	42
12	0.0025	0.101	0.005	71.2	0.011	0.1	3.98	0.01	4.12	3.98	3110	66.2
13	0.004	0.116	0.018	62.5	0.0045	0.006	1.73	0.02	4.62	4.1	2850	51
14	0.0025	0.077	0.005	37.8	0.0025	0.011	4.31	0.01	3.15	4.17	2670	33.3
15	0.035	0.092	0.012	44.8	0.014	0.25	2.05	0.01	3.76	4.26	3350	40
16	0.0025	0.111	0.012	53.8	0.006	0.1	1.82	0.03	4.37	3.57	3400	58.7
17	0.0025	0.084	0.005	40.9	0.007	0.005	1.4	0.02	3.05	4.35	2930	42.7
18	0.0025	0.072	0.005	38.3	0.007	0.02	1.84	0.01	2.65	4.47	774	32.8
19	0.0025	0.08	0.005	39.5	0.005	0.12	2.36	0	3.16	4.23	3280	36.6
20	0.005	0.005	0.04	39.2	0.006	0.1	3.68	0.03	4.26	4.16	3560	40.9
21	0.005	0.005	0.01	43.2	0.005	1	0.9	0.01	3.93	4.22	3360	38.2
22												
23												
mean	0.004667	0.074548	0.010889	46.41667	0.006472	0.099139	3.551905	0.013056	3.885	4.304706	2641.782	44.16471
sd	0.007618	0.033718	0.008757	9.744154	0.002763	0.234053	2.12569	0.007885	0.633239	0.285725	1002.236	8.843284
var	5.8E-05	0.001137	7.67E-05	94.94853	7.63E-06	0.054781	4.518556	6.22E-05	0.400991	0.081639	1004477	78.20368
slope	0.000252	-0.00335	0.000405	-0.219092	8.77E-06	0.022138	-0.156708	0.000428	-0.034541	-0.026348	36.46103	-0.396324

Monitoring Well 16													
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni	
1	0.0025	0.219	0.005	45.6	0.0025	0.007	20.4	0.08	18	5.8	914		
2	0.0025	0.227	0.005	35.7	0.0035	0.0035	24	0.06	15.9	5.74	4720		
3	0.003	0.2085	0.005	31.7	0.0025	0.025	21.95	0.085	18.05	5.78	1500		
4	0.005	0.196	0.005	33.3	0.0065	0.01	14.8	0.06	18.2	5.72	3970		
5	0.0025	0.19	0.005	35	0.0045	0.01	14.1	0.13	17.2	5.66	3300	129	
6	0.0025	0.223	0.005	31.4	0.0025	0.01	17.5	0.07	16.2	5.53	1797	145	
7	0.0025	0.221	0.005	19.7	0.003	0.01	41.5	0.14	15.4	5.78	3580	148	
8	0.0025	0.208	0.005	20.3	0.0025	0.01	14.9	0.07	20	5.97	3540	138	
9	0.0025	0.196	0.005	27.9	0.009	0.01	14.8	0.15	18.1	5.56	9.04	120	
10	0.0025	0.288	0.005	26.3	0.0055	0.0035	12.3	0.014	15.8	5.76	3540	105	
11	0.0025	0.242	0.005	21.6	0.008	0.01	15.6	0.11	16.9	6.25	2300	112	
12	0.0025	0.258	0.01	24.4	0.0025	0.1	14	0.11	21	6	4460	113	
13	0.004	0.227	0.005	20.8	0.004	0.0025	6.28	18.8	18.8	5.89	4070	103	
14	0.0025	0.223	0.005	22.1	0.003	0.006	7.45	0.13	13.6	5.89	4340	87	
15	0.0025	0.265	0.011	20.7	0.0025	0.0025	17.4	0.13	0.0025	5.89	5800	97	
16	0.0025	0.211	0.012	18.6	0.0025	0.1	7.24	0.12	15.2	6.28	5570	103	
17	0.0025	0.23	0.005	25.2	0.0025	0.006	5.79	0.13	18.1	5.87	4490	108	
18	0.33	0.261	0.005	20.4	0.0025	0.02	6.48	0.16	16.7	5.8	3500	104	
19	0.0025	0.195	0.005	16.8	0.0025	0.12	11	0.11	11.5	5.87	5660	74.2	
20	0.005	0.005	0.021	32	0.005	0.2	15.7	0.09	20.5	5.82	5840	78.9	
21	0.005	0.005	0.01	45.7	0.006	0.1	2.95	0.11	21.4	5.82	6210	77.2	
22	0.005	0.005	0.011	59.7	0.067	5	10.4	0.15	23.4	5.61	5800	66.5	
23	0.005	0.129	0.01	31.6	0.005	0.2	15.3	0.18	18.7	5.68	5660	58.8	
mean	0.01737	0.192717	0.007174	28.97826	0.006739	0.259391	14.42783	0.921261	16.89793	5.824783	3937.828	103.5579	
sd	0.068159	0.08072	0.00395	10.44653	0.013275	1.035259	8.001018	3.897618	4.519543	0.182853	1712.419	25.64487	
var	0.004646	0.006516	1.56E-05	109.13	0.000176	1.071762	64.01628	15.19142	20.42627	0.033435	2932380	657.6592	
slope	0.002013	-0.006114	0.00033	-0.001877	0.000629	0.054771	-0.656255	0.021618	0.03148	0.00416	178.3665	-4.177193	

Monitoring Well 19R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.042	0.005	0.18	0.201	0.192	0.0025	18.9	0.01	0.755	6.95	1217	
2	0.053	0.023	0.922	0.89	0.65	0.014	111	0.005	3.44	6.75	1082	
3	0.028	0.006	0.239	0.187	0.192	0.025	32.7	0.01	0.755	6.79	539	
4	0.028	0.0025	0.21	0.175	0.109	0.01	40.7	0.01	0.556	6.94	1082	
5	0.019	0.0025	0.192	0.132	0.101	0.01	18.3	0.01	0.519	6.92	973	0.22
6	0.044	0.0025	0.227	0.169	0.14	0.01	16	0.005	0.783	6.86	829	0.32
7	0.035	0.0025	0.2	0.154	0.085	0.01	19.2	0.01	0.615	6.76	1493	0.28
8	0.028	0.006	0.123	0.111	0.074	0.01	27.2	0.01	0.406	6.69	1524	0.19
9	0.022	0.0025	0.127	0.114	0.099	0.01	22.6	0.005	0.414	6.31	586	0.27
10	0.014	0.0025	0.087	0.085	0.065	0.0025	13.3	0.01	0.34	6.83	1016	0.15
11	0.025	0.006	0.122	0.1	0.119	0.01	19.3	0.01	0.469	6.85	838	0.18
12	0.024	0.0025	0.128	0.09	0.084	0.01	17.3	0.01	0.41	6.83	928	0.17
13	0.018	0.0025	0.064	0.064	0.052	0.0025	18.4	0.01	0.247	6.64	887	0.1
14	0.0025	0.0025	0.005	0.012	0.0025	0.008	5.67	0.01	0.017	6.89	8.55	0.025
15	0.0025	0.0025	0.005	0.0025	0.0025	0.0025	12.7	0.005	0.016	6.94	1148	0.025
16	0.0025	0.0025	0.005	0.005	0.005	0.1	7.32	0.01	0.025	7.23	1311	0.025
17	0.0025	0.0025	0.005	0.02	0.009	0.006	10	0.01	0.014	6.93	954	0.025
18	0.0025	0.0025	0.005	0.008	0.005	0.02	4.7	0.02	0.3	6.83	925	0.025
19	0.0025	0.0025	0.005	0.005	0.008	0.03	16.6	0.01	0.009	6.84	1106	0.025
20	0.005	0.011	0.01	0.005	0.005	0.1	20.9	0.01	0.048	6.93	1266	0.06
21	0.005	0.005	0.01	0.014	0.01	1	1.97	0.02	0.147	6.88	1359	0.05
22	0.05	0.07	0.01	0.008	0.005	1	16.1	0.01	0.017	6.79	1156	0.05
23	0.005	0.007	0.01	0.005	0.005	0.02	33.1	0.02	0.005	6.78	1272	0.05
mean	0.02	0.007565	0.125696	0.111152	0.087783	0.104913	21.9113	0.010435	0.44813	6.833043	1021.72	0.117895
sd	0.016603	0.014347	0.193468	0.183321	0.136799	0.283668	21.53128	0.004241	0.705213	0.161961	333.3156	0.100765
var	0.000276	0.000206	0.03743	0.033607	0.018714	0.080468	463.596	1.8E-05	0.497325	0.026231	111099.3	0.010154
slope	-0.001527	0.000527	-0.019098	-0.017153	-0.013415	0.019831	-1.461314	0.000336	-0.064303	0.003291	7.783696	-0.015149

Monitoring Well 1A													
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni	
1	0.01	0.0025	0.005	0.196	0.188	0.011	3.8	0.02	0.228	7.15	662		
2	0.014	0.0025	0.014	0.078	0.069	0.017	11.4	0.005	0.144	7.14	1516		
3	0.0025	0.0025	0.005	0.022	0.012	0.025	22.5	0.01	0.053	7.03	967		
4	0.005	0.0025	0.005	0.024	0.011	0.01	20.1	0.01	0.041	7.04	1969		
5	0.0025	0.0025	0.005	0.028	0.016	0.01	12.2	0.01	0.061	7.13	1452	0.025	
6	0.0025	0.0025	0.005	0.018	0.006	0.01	4.73	0.01	0.036	7.11	891	0.025	
7	0.0025	0.0025	0.005	0.027	0.018	0.01	14.8	0.01	0.106	7.17	1288	0.025	
8	0.0025	0.0025	0.005	0.02	0.025	0.01	14.6	0.02	0.065	7.25	2280	0.025	
9	0.0025	0.0025	0.005	0.01	0.025	0.01	21	0.01	0.051	6.77	9.16	0.025	
10	0.005	0.0025	0.01	0.013	0.025	0.0025	13.1	0.01	0.099	7.32	1645	0.025	
11	0.012	0.0025	0.005	0.035	0.025	0.01	4.93	0.01	0.116	7.65	1443	0.025	
12	0.009	0.0025	0.005	0.016	0.021	0.0025	13.4	0.03	0.055	7.16	2120	0.025	
13	0.0025	0.0025	0.005	0.015	0.008	0.0025	3.08	0.02	0.053	7.06	19.36	0.025	
14	0.006	0.0025	0.005	0.018	0.015	0.008	9.72	0.01	0.054	6.42	2100	0.025	
15	0.0025	0.0025	0.013	0.0025	0.006	0.0025	8.28	0.02	0.08	7.09	1963	0.025	
16	0.0025	0.0025	0.005	0.0025	0.005	0.1	6.51	0.03	0.01	6.51	2270	0.025	
17	0.0025	0.0025	0.005	0.009	0.011	0.005	8.35	0.04	0.039	6.74	2120	0.025	
18	0.0025	0.0025	0.005	0.0025	0.005	0.02	3.89	0.02	0.015	7.09	1548	0.025	
19	0.0025	0.0025	0.005	0.0025	0.007	0.01	7.87	0.01	0.005	7.01	2640	0.025	
20	0.005	0.009	0.01	0.027	0.007	0.1	16.1	0.01	0.063	6.95	2970	0.05	
21	0.005	0.006	0.01	0.016	0.007	0.1	2.49	0.04	0.057	7.1	3090	0.05	
22													
23													
mean	0.00481	0.002976	0.006524	0.027714	0.024381	0.022667	10.6119	0.016905	0.068143	7.042381	1664.882	0.027941	
sd	0.003509	0.001577	0.002926	0.041867	0.040054	0.032833	6.069554	0.010305	0.050136	0.265253	837.5058	0.008303	
var	1.23E-05	2.49E-06	8.56E-06	0.001753	0.001604	0.001078	36.83949	0.000106	0.002514	0.070359	701415.9	6.89E-05	
slope	-0.000174	0.000121	5.32E-05	-0.003699	-0.003378	0.00254	-0.378922	0.000838	-0.004473	-0.012662	79.69013	0.000919	

Monitoring Well 25												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.175	0.005	0.0025	0.0025	0.0025	11.3	0.04	2.43	6.55	3660	
2	0.0035	0.272	0.005	0.026	0.01	0.0045	16.4	0.07	4.86	6.54	7750	
3	0.0025	0.326	0.005	0.008	0.0025	0.025	37	0.03	5.95	6.57	524	
4	0.0025	0.13	0.018	0.033	0.02	0.0025	19.8	0.01	2.5	6.68	5360	
5	0.0025	0.045	0.031	0.049	0.021	0.0025	12.7	0.03	1.06	6.89	3250	1.34
6	0.0025	0.071	0.012	0.021	0.009	0.0025	6.83	0.02	1.38	6.82	2290	1.68
7	0.0025	0.062	0.005	0.019	0.005	0.0025	15.7	0.05	1.08	6.64	4080	1.92
8	0.003	0.032	0.017	0.023	0.015	0.0025	10.9	0.01	0.643	6.92	1931	0.86
9	0.0025	0.041	0.005	0.012	0.012	0.0025	14.9	0.02	0.748	6.69	1656	1.17
10	0.0045	0.1	0.005	0.015	0.007	0.0025	20.8	0.01	1.96	6.73	3460	2.26
11	0.0025	0.194	0.005	0.02	0.0025	0.0025	10.4	0.02	3.51	6.5	3550	4.12
12	0.0025	0.099	0.014	0.024	0.018	0.0025	15.5	0.02	1.87	6.58	4090	2.08
13	0.0045	0.054	0.014	0.021	0.02	0.0025	4.61	0.01	1.11	6.37	2900	1.22
14	0.0025	0.039	0.011	0.021	0.007	0.0025	6.33	0.01	7.19	6.8	1989	1.03
15	0.0025	0.144	0.015	0.0025	0.0025	0.0025	10.6	0.02	2.28	6.67	4260	2.79
16												
17	0.0025	0.172	0.005	0.009	0.012	0.005	5.76	0.02	2.3	4.87	4510	2.62
18	0.0025	0.15	0.005	0.043	0.0025	0.02	5.31	0.02	1.89	6.61	2450	2.14
19	0.0025	0.217	0.005	0.005	0.0025	0.03	8.65	0.02	3.31	6.52	5780	3.29
20	0.005	0.602	0.012	0.006	0.005	0.1	17.1	0.15	1.83	6.37	9980	2.7
21	0.05	0.412	0.01	0.006	0.006	1	4.1	0.18	1.25	6.46	7840	1.45
22												
23												
mean	0.005275	0.16685	0.0102	0.0183	0.0091	0.06085	12.7345	0.038	2.45755	6.539	4065.5	2.041875
sd	0.010557	0.144832	0.006764	0.012834	0.006587	0.22219	7.642459	0.04618	1.748204	0.421812	2333.435	0.898415
var	0.000111	0.020976	4.57E-05	0.000165	4.34E-05	0.049368	58.40717	0.002133	3.056216	0.177925	5444920	0.80715
slope	0.000676	0.008367	-0.000126	-0.000534	-0.000259	0.015198	-0.626605	0.002703	-0.035707	-0.024034	139.8286	0.060425

Monitoring Well 26												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.0025	0.006	0.0025	17.2	0.02	0.031	6.95	1948	
2	0.0025	0.0025	0.005	0.022	0.0025	0.0025	32.6	0.02	0.009	7.07	3600	
3	0.0025	0.0025	0.005	0.0035	0.0025	0.025	11.3	0.02	0.028	6.97	2310	
4	0.0025	0.0025	0.005	0.016	0.0025	0.01	19.7	0.02	0.014	7.01	346	
5	0.0025	0.0025	0.005	0.0195	0.0025	0.01	16.9	0.02	0.046	7.01	2820	0.025
6	0.0025	0.0025	0.005	0.014	0.0025	0.01	13.9	0.02	0.03	6.97	2320	0.025
7	0.0025	0.0025	0.005	0.011	0.0025	0.01	23.2	0.04	0.023	7.09	3650	0.025
8	0.0025	0.0025	0.005	0.014	0.0025	0.01	22.5	0.04	0.011	7.06	4530	0.025
9	0.0025	0.0025	0.005	0.0025	0.0025	0.01	20.6	0.07	0.016	6.77	1759	0.025
10	0.0025	0.0025	0.005	0.009	0.0025	0.0025	25.5	0.04	0.053	7.12	4290	0.025
11	0.0025	0.0025	0.005	0.009	0.0025	0.01	12.3	0.09	0.02	8.07	3680	0.025
12	0.0025	0.0025	0.01	0.009	0.0025	0.01	16.6	0.1	0.029	7.05	5720	0.025
13	0.003	0.0025	0.005	0.005	0.0035	0.0025	5.71	0.03	0.022	6.55	4980	0.025
14	0.0025	0.0025	0.005	0.008	0.0025	0.0025	15.9	0.03	0.014	7.11	4840	0.025
15	0.0025	0.0025	0.005	0.0025	0.0025	0.0025	4.09	0.08	0.023	7.11	7470	0.025
16	0.0025	0.0025	0.005	0.032	0.0025	0.2	14.7	0.06	0.036	6.48	7950	0.025
17	0.0025	0.0025	0.005	0.009	0.0025	0.006	12.7	0.05	0.03	5.46	6800	0.025
18	0.0025	0.0025	0.005	0.006	0.0025	0.02	12.5	0.08	0.017	6.88	5270	0.025
19	0.0025	0.0025	0.005	0.005	0.0025	0.12	15.7	0.06	0.007	6.85	7750	0.06
20	0.005	0.017	0.018	0.006	0.005	0.1	2.97	0.18	0.024	6.97	8830	0.07
21	0.005	0.005	0.01	0.007	0.006	1	3.32	0.17	0.035	6.88	8150	0.05
22												
23												
mean	0.002762	0.00331	0.006095	0.010119	0.003	0.074571	15.23286	0.059048	0.024667	6.925238	4714.905	0.031176
sd	0.000752	0.003184	0.003113	0.007406	0.001151	0.21789	7.511381	0.046142	0.011749	0.449406	2408.392	0.014201
var	5.65E-07	1.01E-05	9.69E-06	5.48E-05	1.32E-06	0.047476	56.42084	0.002129	0.000138	0.201966	5800352	0.000202
slope	6.3E-05	0.000202	0.000223	-0.00023	3.18E-05	0.016297	-0.749078	0.005416	-5.32E-05	-0.02013	341.8052	0.001777

Monitoring Well 27												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.475	0.023	0.07	0.022	0.0025	18.3	0.04	13.5	6.3	1475	
2	0.012	0.357	0.087	0.162	0.022	0.003	52.9	0.05	13.3	6.21	5660	
3	0.0025	0.224	0.021	0.065	0.0025	0.06	25.3	0.03	11.5	6.24	1809	
4	0.0025	0.264	0.018	0.061	0.024	0.01	63.2	0.03	13	6.31	4710	
5	0.0025	0.2582	0.0155	0.0405	0.008	0.01	22.45	0.04	13.05	6.34	3560	149.5
6	0.0025	0.193	0.015	0.034	0.0045	0.01	23.9	0.04	9.9	6.28	2340	133
7	0.0025	0.286	0.025	0.061	0.006	0.01	54.3	0.03	13.1	6.13	5360	158
8	0.0025	0.319	0.03	0.052	0.0025	0.1	49.5	0.04	19	6.24	6080	201
9	0.0025	0.347	0.014	0.02	0.003	0.01	41.6	0.03	15.2	5.93	1157	182
10	0.004	0.406	0.054	0.03	0.0075	0.007	7.04	0.06	11.9	6.26	4000	176
11	0.0025	0.346	0.031	0.031	0.005	0.01	27.2	0.07	15.3	6.25	2290	181
12	0.0025	0.465	0.032	0.031	0.0025	0.025	25.7	0.06	15.6	6.32	5530	1.67
13	0.004	0.535	0.032	0.02	0.0045	0.038	12.4	0.06	18.6	6.28	5780	185
14	0.0025	0.792	0.022	0.022	0.0025	0.0025	19	0.09	16.6	6.2	6950	196
15	0.0025	0.922	0.035	0.015	0.0025	0.0025	27	0.06	15.1	6.2	10930	200
16	0.0025	0.867	0.003	0.042	0.0025	0.2	12.3	17.2	17.2	6.43	10960	202
17	0.0025	0.901	0.032	0.036	0.0025	0.005	8.69	0.05	15.9	6.34	7380	184
18	0.0025	1.67	0.043	0.014	0.0025	0.02	9.63	0.28	22.2	6.19	6610	264
19	0.0025	1.98	0.04	0.04	0.0025	0.12	22	0.1	16.3	6.3	15240	198
20	0.005	0.459	0.055	0.043	0.005	0.1	28.4	0.14	26.3	6.36	19570	247
21	0.005	0.614	0.01	0.023	0.006	0.1	6.57	0.34	16.4	6.33	16460	185
22	0.05	1.19	0.041	0.034	0.005	5	12.9	0.09	16.7	6.25	16500	167
23	0.05	0.92	0.039	0.019	0.005	0.2	32	0.09	10.1	6.29	14290	123
mean	0.007083	0.643052	0.031196	0.041978	0.006522	0.262848	26.18609	0.826957	15.46739	6.26	7593.087	175.43
sd	0.013601	0.465016	0.017976	0.030795	0.006619	1.034455	16.15003	3.570036	3.736479	0.097468	5446.827	53.73961
var	0.000185	0.21624	0.000323	0.000948	4.38E-05	1.070097	260.8234	12.74516	13.96127	0.0095	29667930	2887.946
slope	0.000932	0.046603	0.000177	-0.002662	-0.000551	0.053779	-1.182381	0.074466	0.259733	0.003172	667.7994	2.377474

Monitoring Well 28												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.012	0.205		0.162	3.99	0.066	0.0025	40.3	0.05	10.2	6.2	6190
2	0.018	0.133		0.195	3.35	0.047	0.0095	73.4	0.01	9.17	6.18	6740
3	0.0025	0.094		0.046	0.883	0.0025	0.025	65.1	0.04	6.02	6.33	1900
4	0.0025	0.12		0.045	1.04	0.0055	0.03	56.4	0.03	8.73	6.3	5940
5	0.0025	0.133		0.016	0.759	0.006	0.01	22.8	0.03	8.67	6.45	4580
6	0.0025	0.117		0.013	0.656	0.0025	0.01	27.2	0.02	7.08	6.49	2090
7	0.0025	0.099		0.022	0.676	0.0055	0.01	11.2	0.03	5.48	6.39	5020
8	0.0025	0.102		0.012	0.556	0.003	0.1	64.1	0.02	6.13	6.46	5560
9	0.0025	0.093		0.005	0.571	0.0045	0.1	47.9	0.04	6.34	6.14	1027
10	0.003	0.088		0.013	0.484	0.013	0.009	16.9	0.03	6.19	6.5	3490
11	0.0025	0.085		0.01	0.688	0.0025	0.01	26.2	0.01	5.21	6.26	2710
12	0.0025	0.101		0.015	0.5	0.025	0.1	36.7	0.03	6.66	6.54	4780
13	0.004	0.101		0.012	0.643	0.005	0.037	9.42	0.04	5.44	6.43	4000
14	0.0025	0.08		0.005	0.476	0.0035	0.0025	32.8	0.04	4.78	6.6	3260
15	0.0025	0.097		0.005	0.653	0.0025	0.0025	64	0.02	5.63	6.32	6000
16	0.0025	0.095		0.005	0.427	0.0025	0.2	5.93	0.01	5.78	6.57	5760
17	0.0025	0.081		0.005	0.421	0.007	0.005	10.4	0.02	6.27	6.61	4400
18	0.0025	0.096		0.012	0.62	0.0025	0.02	9.81	0.05	6.31	6.52	2440
19	0.0025	0.059		0.005	0.652	0.0025	0.12	30.7	0.02	5.47	6.23	5250
20	0.005	0.005		0.024	0.46	0.005	0.1	37.3	0.03	6.43	6.33	5940
21	0.005	0.005		0.01	0.503	0.005	0.1	2.05	0.01	5.95	6.52	5950
22	0.005	0.005		0.01	0.371	0.065	0.5	47.8	0.06	4.8	6.44	5340
23	0.005	0.059		0.01	0.55	0.005	0.2	82.2	0.02	4.63	6.3	4950
mean	0.004109	0.089261	0.028565	0.866478	0.012543	0.074043	35.6787	0.028696	6.407391	6.396087	4492.043	219
sd	0.003683	0.044184	0.048852	0.902831	0.019419	0.111235	23.49024	0.013917	1.46257	0.139569	1592.656	29.97592
var	1.36E-05	0.001952	0.002387	0.815103	0.000377	0.012373	551.7912	0.000194	2.139111	0.019479	2536553	898.5556
slope	-0.000162	-0.005293	-0.004174	-0.077333	-0.000508	0.009129	-0.729002	-8.89E-05	-0.151374	0.00666	28.70455	-4.412281

Monitoring Well 29													
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni	
1	0.028	0.023	0.024	0.228	0.267	0.005	19.1	0.005	0.559	6.97	857		
2	0.028	0.006	0.005	0.089	0.079	0.008	39.2	0.005	0.182	6.9	886		
3	0.026	0.0025	0.005	0.042	0.047	0.025	20.5	0.01	0.114	6.9	612		
4	0.028	0.0025	0.015	0.07	0.04	0.005	36.4	0.005	0.167	7.05	817		
5	0.022	0.0025	0.005	0.029	0.03	0.005	4.57	0.02	0.113	7.12	842	0.025	
6	0.03	0.0025	0.005	0.021	0.016	0.005	13.9	0.005	0.067	7.11	548	0.025	
7	0.023	0.0025	0.005	0.0215	0.026	0.005	19.35	0.005	0.0805	7.1	843	0.025	
8	0.024	0.008	0.015	0.118	0.087	0.005	24.7	0.005	0.173	7	8.6	0.025	
9	0.022	0.0025	0.005	0.039	0.042	0.005	34	0.005	0.109	6.58	940	0.2	
10	0.031	0.0025	0.005	0.047	0.059	0.0025	23.9	0.005	0.121	7.06	709	0.025	
11	0.021	0.005	0.005	0.035	0.037	0.005	22.7	0.005	0.08	7	808	0.045	
12	0.029	0.0025	0.005	0.02	0.019	0.005	24.7	0.005	0.072	7.13	813	0.05	
13	0.024	0.0025	0.005	0.023	0.03	0.0025	12.1	0.01	0.083	7.09	740	0.025	
14	0.02	0.0025	0.005	0.009	0.008	0.009	17.1	0.005	0.028	7.09	773	0.025	
15	0.022	0.0025	0.005	0.0025	0.011	0.0025	18.8	0.01	0.037	7.07	777	0.025	
16	0.022	0.0025	0.005	0.01	0.013	0.02	2.66	0.01	0.083	7.17	908	0.21	
17	0.024	0.0025	0.005	0.008	0.009	0.005	13.1	0.01	0.045	6.88	768	0.26	
18	0.029	0.0025	0.005	0.008	0.009	0.02	7.15	0.04	0.013	7.07	559	0.34	
19	0.018	0.0025	0.005	0.005	0.012	0.12	18.7	0.01	0.023	6.97	781	0.08	
20	0.023	0.05	0.01	0.01	0.008	0.01	24.1	0.01	0.048	7.11	833	0.08	
21	0.024	0.005	0.01	0.005	0.008	0.1	3.59	0.01	0.039	6.9	845	0.05	
22	0.026	0.006	0.01	0.011	0.05	1	25.7	0.01	0.045	6.86	754	0.05	
23	0.016	0.005	0.01	0.007	0.005	0.2	23.2	0.02	0.02	6.91	848	0.05	
mean	0.024348	0.006326	0.007565	0.037304	0.039652	0.068239	19.5313	0.009783	0.100065	7.001739	750.8522	0.085	
sd	0.00388	0.010474	0.004813	0.050789	0.054675	0.20881	9.742575	0.007903	0.111369	0.130859	190.1899	0.094237	
var	1.41E-05	0.00011	2.32E-05	0.00258	0.002989	0.043602	94.91778	6.25E-05	0.012403	0.017124	36172.19	0.008881	
slope	-0.000263	0.000178	-0.000137	-0.004908	-0.004476	0.013575	-0.465702	0.000455	-0.010688	-0.000662	3.200198	0.004482	

Monitoring Well 31A												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.027	0.739	0.026	110	1.11	0.0025	7.66	0.06	37.8	3.39	5160	
2	0.062	0.629	0.083	91.3	0.123	0.022	4.85	0.06	31.6	3.09	6000	
3	0.089	0.818	0.042	97.3	0.186	0.05	8.09	0.04	40.8	3.51	2160	
4	0.083	1.27	0.028	73.2	0.336	0.01	15.4	0.005	46.7	4.26	3300	
5	0.035	1.1	0.026	78.8	0.39	0.01	10.5	0.04	47.8	3.86	3240	60
6	0.0025	0.981	0.016	118	0.309	0.01	4.28	0.03	51.1	3.75	1822	85
7	0.057	1.48	0.18	180	0.129	0.01	18.5	0.02	82.8	4.13	4000	128
8	0.053	1.3	0.014	205	0.35	0.01	10.6	0.02	87.5	4.57	4730	140
9	0.008	0.6	0.015	40.7	0.241	0.01	2.39	0.02	33.2	5.93	681	29
10	0.0025	0.36	0.005	12.3	0.105	0.0025	2.78	0.01	15.9	5.12	1219	10
11	0.58	0.266	0.018	39.8	0.817	0.01	4.79	0.03	11.8	7.42	3440	33
12	0.0025	0.346	0.011	13.4	0.163	0.07	5.03	0.01	13.8	4.65	2030	10.7
13	0.061	0.299	0.012	11.7	0.297	0.0025	2.87	0.02	13.1	3.69	1785	10
14	0.134	0.496	0.005	36.3	0.217	0.01	3.71	0.02	24.5	3.7	2320	35.3
15	1.44	0.391	0.005	37	0.57	0.0045	8.03	0.03	15.2	3.37	3920	34.8
16	0.158	0.372	0.011	34.3	0.218	0.2	7.14	0.02	20.2	3.68	4380	36.6
17	0.005	0.087	0.01	1.97	0.026	0.005	1.48	0.01	3.93	5.91	822	1.61
18	0.008	0.09	0.038	3.32	0.026	0.02	2.34	0.01	3.69	6.04	1063	4.05
19	1.06	0.045	0.01	26.5	0.32	0.03	8.31	0.02	7.21	3.7	3910	22.1
20	0.467	0.009	0.017	252	0.211	0.1	12	0.02	113	3.53	4140	206
21	0.088	0.13	0.01	10.8	0.134	0.1	1.41	0.01	6.89	4.36	1881	10.8
22	0.402	0.158	0.011	17.9	0.26	1	4.47	0.03	10.7	3.66	2790	21.8
23	0.217	0.22	0.01	22.1	0.118	0.2	18.5	0.03	12.7	3.51	2980	22.6
mean	0.219196	0.529826	0.026217	65.81261	0.289391	0.08213	7.179565	0.024565	31.82261	4.296957	2946.652	47.44
sd	0.365347	0.438742	0.037596	68.39652	0.249899	0.208338	5.074495	0.014687	29.12234	1.093225	1448.002	54.84104
var	0.133479	0.192495	0.001413	4678.083	0.06245	0.043405	25.7505	0.000216	848.1106	1.19514	2096709	3007.539
slope	0.019724	-0.049831	-0.002125	-3.623844	-0.013389	0.013882	-0.07997	-0.001038	-1.509417	0.012391	-58.06423	-2.355211

Monitoring Well 33												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1												
2												
3												
4	0.0025	0.0025	0.028	0.183	0.144	0.03	1.87	0.02	0.597	7.06	5860	
5	0.0025	0.0025	0.017	0.072	0.07	0.01	12.5	0.05	0.287	7.16	3950	0.025
6	0.0025	0.0025	0.005	0.04	0.03	0.01	10.9	0.08	0.127	7.19	2750	0.025
7	0.0025	0.0025	0.005	0.021	0.013	0.01	17.5	0.01	0.075	6.94	4580	0.025
8	0.0025	0.0025	0.052	0.08	0.061	0.01	12.8	0.01	0.307	7.42	4930	0.07
9	0.0025	0.0025	0.019	0.027	0.034	0.01	24.6	0.06	0.35	6.66	1961	0.025
10	0.0025	0.0025	0.032	0.032	0.075	0.004	16.2	0.02	0.298	7.24	4900	0.05
11	0.0025	0.007	0.035	0.035	0.211	0.01	12.7	0.01	0.601	7.1	4010	0.05
12	0.0025	0.0025	0.018	0.022	0.014	0.025	6.41	0.01	0.093	7.26	6580	0.025
13	0.0045	0.0025	0.024	0.022	0.021	0.0025	4.15	0.04	0.141	5.54	5080	0.025
14	0.0025	0.0025	0.027	0.023	0.015	0.0025	8.17	0.04	0.12	7.12	5090	0.025
15	0.0035	0.0025	0.005	0.054	0.014	0.25	16.9	0.03	0.076	7.03	7980	0.025
16	0.0025	0.0025	0.016	0.018	0.014	0.3	9.31	0.04	0.1	6.58	6740	0.025
17	0.0025	0.0025	0.005	0.008	0.006	0.005	8.8	0.05	0.047	6.74	6240	0.025
18	0.0025	0.0025	0.005	0.015	0.012	0.02	3.25	0.04	0.111	7.07	3900	0.025
19										7.18	6140	
20	0.005	0.009	0.01	0.013	0.005	0.1	22.6	0.01	0.087	7.18	6670	0.06
21	0.05	0.007	0.01	0.025	0.014	0.1	3.22	0.06	0.156	7.07	5080	0.05
22												
23												
mean	0.005618	0.003412	0.018412	0.040588	0.044294	0.052882	11.28706	0.034118	0.210176	6.974444	5135.611	0.034688
sd	0.011463	0.002071	0.013309	0.041763	0.055918	0.089281	6.700059	0.021523	0.173469	0.416558	1499.841	0.015542
var	0.000131	4.29E-06	0.000177	0.001744	0.003127	0.007971	44.89078	0.000463	0.030092	0.17352	2249523	0.000242
slope	0.001015	0.000196	-0.000948	-0.004851	-0.005152	0.007251	-0.150817	0.000231	-0.017753	-0.007864	130.5604	0.000414

Monitoring Well 34												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.014	0.01	0.112	0.794	0.42	0.0025	14	0.08	1.73	7.36	4990	
2	0.009	0.0025	0.069	0.322	0.111	0.034	16.1	0.04	0.679	7.28	5180	
3	0.008	0.0025	0.063	0.196	0.093	0.05	10.2	0.06	0.533	7.3	2320	
4	0.021	0.005	0.157	0.644	0.127	0.01	18.9	0.06	1.42	7.39	5000	
5	0.0025	0.0025	0.005	0.024	0.0025	0.01	11.1	0.04	0.225	7.33	4130	0.025
6	0.0025	0.0025	0.005	0.031	0.007	0.01	9.38	0.03	0.151	7.23	2660	0.025
7	0.008	0.0025	0.005	0.02	0.008	0.01	18.4	0.02	0.106	7.36	3500	0.025
8	0.005	0.0025	0.032	0.107	0.038	0.001	11.5	0.03	0.3	7.57	3910	0.025
9	0.0025	0.0025	0.005	0.048	0.0025	0.001	15.3	0.01	0.123	7.11	2180	0.025
10	0.0025	0.0025	0.005	0.032	0.011	0.0025	19.6	0.02	0.18	7.29	3130	0.025
11	0.0025	0.0025	0.012	0.039	0.026	0.01	15.4	0.01	0.177	6.9	2640	0.025
12	0.005	0.0025	0.022	0.037	0.031	0.007	11.5	0.01	0.199	7.5	2970	0.025
13	0.0055	0.0025	0.01	0.023	0.0045	0.0025	8.66	0.03	0.071	6.17	2570	0.025
14	0.0025	0.0025	0.005	0.013	0.0025	0.0025	8.49	0.01	0.087	7.44	2320	0.025
15	0.0025	0.0025	0.005	0.005	0.0025	0.0025	12	0.01	0.043	7.43	2660	0.025
16	0.0025	0.0025	0.005	0.005	0.005	0.1	6.78	0.03	0.035	6.83	2900	0.025
17	0.0025	0.0025	0.005	0.005	0.005	0.005	5.44	0.03	0.045	6.68	2740	0.025
18	0.0025	0.0025	0.005	0.005	0.006	0.02	4.33	0.01	0.063	7.44	2050	0.025
19	0.0025	0.0025	0.005	0.009	0.005	0.12	8.99	0.01	0.053	7.33	2920	0.06
20	0.005	0.007	0.01	0.06	0.005	0.1	16	0.04	0.006	7.4	3240	0.05
21	0.05	0.005	0.01	0.008	0.006	1	2.04	0.09	0.05	7.43	3080	0.05
22												
23												
mean	0.007524	0.00331	0.026286	0.115571	0.043738	0.071452	11.62429	0.031905	0.298857	7.227143	3194.762	0.03
sd	0.010796	0.00194	0.041012	0.215746	0.094037	0.215853	4.872824	0.023584	0.4582	0.330547	934.9365	0.011319
var	0.000117	3.76E-06	0.001682	0.046546	0.008843	0.046592	23.74442	0.000556	0.209947	0.109261	874106.2	0.000128
slope	0.000168	-3.51E-05	-0.004069	-0.021842	-0.008759	0.015066	-0.435247	-0.001013	-0.050431	-0.006896	-87.09091	0.001434

Monitoring Well 35													
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni	
1													
2													
3													
4	0.0025	0.005	0.005	0.03	0.057	0.01	11.1	0.01	0.081	7.47	2180		
5	0.0025	0.0025	0.01	0.023	0.007	0.01	8.18	0.02	0.05	7.57	2580	0.025	
6	0.0025	0.0025	0.027	0.039	0.023	0.01	5.42	0.04	0.093	7.31	2050	0.025	
7	0.0025	0.0025	0.012	0.022	0.011	0.01	14.8	0.04	0.056	7.49	3530	0.025	
8	0.0025	0.0025	0.026	0.043	0.022	0.01	12.6	0.04	0.106	7.58	4430	0.05	
9	0.0025	0.0025	0.005	0.011	0.011	0.01	16.6	0.03	0.044	7.23	2110	0.025	
10	0.0025	0.0025	0.005	0.013	0.0025	0.003	23	0.02	0.0025	7.3	3040	0.025	
11	0.0025	0.0025	0.013	0.049	0.032	0.01	6.66	0.03	0.104	7.15	2470	0.025	
12	0.0025	0.0025	0.005	0.01	0.0025	0.0025	7.55	0.03	0.023	7.41	3540	0.025	
13	0.0025	0.0025	0.011	0.019	0.023	0.0025	8.54	0.06	0.116	6.71	3640	0.025	
14	0.0025	0.0025	0.005	0.009	0.0025	0.0025	7.75	0.02	0.021	7.37	2940	0.025	
15	0.0025	0.0025	0.005	0.008	0.0025	0.025	12.1	0.02	0.012	7.35	3970	0.025	
16	0.0025	0.0025	0.005	0.0025	0.006	0.01	9.07	0.03	0.005	6.8	3880	0.025	
17	0.0025	0.0025	0.005	0.0025	0.006	0.005	4.77	0.04	0.008	7.11	3890	0.025	
18	0.0025	0.0025	0.005	0.0025	0.006	0.02	2.47	0.02	0.019	7.27	2630	0.025	
19	0.06	0.0025	0.005	0.0025	0.005	0.12	9.68	0.01	0.005	7.29	3610	0.025	
20	0.005	0.007	0.01	0.005	0.005	0.1	16.7	0.1	0.015	7.29	4220	0.05	
21	0.005	0.005	0.01	0.008	0.005	1	1.2	0.06	0.028	7.2	4350	0.05	
22													
23													
mean	0.005972	0.003028	0.009389	0.016611	0.012722	0.075583	9.899444	0.034444	0.043806	7.272222	3281.111	0.029412	
sd	0.013508	0.001277	0.00687	0.014807	0.014143	0.233067	5.443777	0.021753	0.039373	0.229412	795.6269	0.009824	
var	0.000182	1.63E-06	4.72E-05	0.000219	0.0002	0.05432	29.63471	0.000473	0.00155	0.05263	633022.2	9.65E-05	
slope	0.000854	6.97E-05	-0.000501	-0.001954	-0.001496	0.020395	-0.303581	0.001486	-0.004376	-0.019092	88.29721	0.000613	

Monitoring Well 36R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.011	0.032	0.0025	4.23	0.03	0.073	7.05	804	
2	0.0025	0.0025	0.005	0.014	0.014	0.007	2.27	0.02	0.015	6.87	1893	
3	0.0025	0.0025	0.005	0.0055	0.0065	0.025	16.6	0.025	0.0205	6.98	1146	
4	0.0025	0.0025	0.005	0.015	0.003	0.01	7.75	0.02	0.005	7.15	1868	
5	0.0025	0.0025	0.005	0.015	0.0025	0.01	8.96	0.01	0.021	7.36	1684	0.025
6	0.0025	0.0025	0.005	0.009	0.0025	0.01	5.92	0.02	0.009	7.11	1138	0.025
7	0.0025	0.0025	0.005	0.012	0.0025	0.01	4.63	0.01	0.016	7.12	2210	0.025
8	0.0025	0.0025	0.005	0.012	0.006	0.01	7.75	0.02	0.018	7.35	1965	0.025
9	0.0025	0.0025	0.005	0.0025	0.0025	0.01	13.3	0.02	0.005	7.03	978	0.025
10	0.0025	0.0025	0.005	0.005	0.0025	0.0025	5.64	0.01	0.0025	7.28	1693	0.025
11	0.0025	0.0025	0.005	0.009	0.009	0.01	6.21	0.01	0.012	7.65	1494	0.025
12	0.0025	0.0025	0.005	0.008	0.0025	0.0025	7.39	0.02	0.01	7.25	1984	0.025
13	0.004	0.0025	0.005	0.005	0.0025	0.0025	8.99	0.02	0.009	7.18	1610	0.025
14	0.0025	0.0025	0.005	0.009	0.0025	0.0025	5.48	0.02	0.011	7.28	1597	0.025
15	0.0025	0.0025	0.005	0.016	0.007	0.25	8.37	0.01	0.021	7.22	1981	0.025
16	0.0025	0.0025	0.005	0.0025	0.0025	0.1	6.78	0.01	0.005	6.52	1894	0.025
17	0.0025	0.0025	0.005	0.0025	0.007	0.007	4.43	0.02	0.012	6.92	1644	0.025
18	0.0025	0.0025	0.005	0.0025	0.0025	0.02	2.6	0.01	0.005	7.22	1334	0.025
19	0.0025	0.0025	0.005	0.0025	0.0025	0.01	7.06	0.01	0.005	6.96	1792	0.025
20	0.005	0.007	0.01	0.005	0.005	0.1	12.1	0.03	0.005	7.22	1217	0.05
21	0.005	0.007	0.01	0.01	0.006	0.1	1.65	0.02	0.038	7.16	1798	0.05
22	0.05	0.005	0.01	0.011	0.008	0.5	12.2	0.04	0.007	7.11	1542	0.05
23	0.005	0.014	0.01	0.008	0.008	0.2	14.5	0.01	0.007	7.11	1344	0.05
mean	0.004957	0.0035	0.00587	0.008348	0.006043	0.060935	7.600435	0.018043	0.014435	7.134783	1591.739	0.030263
sd	0.009859	0.002663	0.001938	0.004455	0.00641	0.116591	3.93161	0.008082	0.015095	0.214431	361.307	0.010471
var	9.72E-05	7.09E-06	3.75E-06	1.99E-05	4.11E-05	0.013593	15.45756	6.53E-05	0.000228	0.045981	130542.7	0.00011
slope	0.00054	0.000225	0.000188	-0.000267	-0.000293	0.009501	0.061354	-3.46E-05	-0.000785	-0.001107	4.783597	0.001316

Monitoring Well 37R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1												
2												
3												
4	0.007	0.024	0.037	0.095	0.059	0.01	3.94	0.02	0.378	7.11	4220	
5	0.0025	0.01	0.017	0.098	0.053	0.01	12.3	0.01	0.226	7.22	2320	0.07
6	0.005	0.018	0.018	0.259	0.157	0.04	6.85	0.005	0.404	7.2	1064	0.025
7	0.0025	0.014	0.01	0.0438	0.28	0.058	8.59	0.01	0.559	7.17	2690	0.025
8	0.0025	0.02	0.012	0.65	0.019	0.09	12.5	0.03	0.484	7.42	3570	0.025
9	0.0025	0.008	0.005	0.221	0.143	0.03	13.1	0.02	0.255	7.14	1179	0.025
10	0.0025	0.008	0.005	0.323	0.108	0.031	5.79	0.02	0.344	7.06	2970	0.025
11	0.0025	0.018	0.015	0.118	0.042	0.01	5.78	0.01	0.214	7.6	1511	0.025
12	0.0025	0.005	0.005	0.067	0.022	0.01	7.13	0.005	0.097	7.18	1972	0.025
13	0.0025	0.0025	0.005	0.029	0.015	0.012	5.05	0.005	0.069	5.27	1505	0.025
14	0.006	0.008	0.005	0.062	0.036	0.049	4.89	0.01	0.105	6.77	3290	0.025
15	0.0025	0.019	0.014	0.04	0.023	0.25	11.1	0.02	0.084	7.12	5690	0.025
16	0.0025	0.006	0.005	0.03	0.019	0.1	6.02	0.01	0.057	6.52	2480	0.025
17	0.0025	0.008	0.005	0.153	0.09	0.049	5.28	0.03	0.182	6.73	3090	0.025
18	0.0025	0.005	0.005	0.161	0.91	0.06	3.82	0.11	0.19	7.05	2330	0.025
19	0.0025	0.015	0.005	0.034	0.014	0.03	9.77	0.14	0.7	6.98	5270	0.025
20	0.005	0.017	0.01	0.005	0.005	0.1	18.6	0.12	0.06	7.02	5370	0.05
21	0.05	0.011	0.01	0.011	0.006	0.1	2.55	0.03	0.047	7.05	3630	0.05
22	0.05	0.021	0.01	0.025	0.005	2.2	12.1	0.04	0.07	6.93	5530	0.05
23	0.005	0.017	0.01	0.018	0.005	2	24	0.02	0.066	6.89	3590	0.05
mean	0.008025	0.012725	0.0104	0.12214	0.10055	0.26195	8.958	0.03325	0.22955	6.9715	3163.55	0.032632
sd	0.014424	0.006307	0.007639	0.152542	0.202715	0.631828	5.379784	0.040304	0.190428	0.464047	1457.722	0.013781
var	0.000208	3.98E-05	5.84E-05	0.023269	0.041093	0.399206	28.94208	0.001624	0.036263	0.21534	2124952	0.00019
slope	0.001113	-8.01E-05	-0.000641	-0.011972	-0.00079	0.058217	0.255038	0.00335	-0.015453	-0.01906	123.0173	0.000605

Monitoring Well 39R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.566	0.301	0.043	5	0.005	0.255	7.12	661	
2												
3	0.00375	0.0025	0.005	0.052	0.026	0.025	10.1	0.01	0.038	7.14	555	
4	0.0025	0.0025	0.005	0.0755	0.018	0.01	17.3	0.005	0.055	7.24	680	
5	0.0025	0.0025	0.005	0.032	0.019	0.01	11.415	0.01	0.025	7.38	738	0.025
6	0.0025	0.0025	0.005	0.119	0.06	0.06	9.25	0.02	0.058	7.09	784	0.025
7	0.0025	0.0025	0.005	0.144	0.066	0.027	6.64	0.05	0.077	7.17	1502	0.025
8	0.0025	0.006	0.005	0.649	0.6	0.13	3.58	0.02	0.618	7.13	1636	0.025
9	0.0025	0.0025	0.005	0.048	0.026	0.01	13.1	0.03	0.035	7.03	603	0.025
10	0.0025	0.0025	0.005	0.195	0.093	0.022	3.62	0.02	0.135	7.08	1460	0.025
11	0.0025	0.006	0.005	0.503	0.241	0.04	1.32	0.05	0.251	6.95	1340	0.025
12	0.0025	0.0025	0.005	0.097	0.035	0.012	8.94	0.03	0.061	7.11	1574	0.025
13	0.0025	0.0025	0.005	0.043	0.026	0.005	5.49	0.03	0.036	5.01	1433	0.025
14	0.0025	0.0025	0.005	0.058	0.039	0.03	6.23	0.05	0.058	6.65	1661	0.025
15	0.0025	0.005	0.005	0.122	0.044	0.025	13.8	0.06	0.075	7.17	2340	0.025
16	0.0025	0.0025	0.005	0.022	0.015	0.1	3.11	0.03	0.035	6.65	2080	0.025
17	0.0025	0.0025	0.005	0.03	0.022	0.01	5.4	0.04	0.026	6.73	1751	0.025
18	0.0025	0.0025	0.005	0.005	0.055	0.02	4.73	0.09	0.007	7.11	1357	0.025
19	0.0025	0.0025	0.005	0.098	0.057	0.03	16.9	0.13	0.076	7.02	2260	0.025
20	0.005	0.006	0.01	0.005	0.005	0.1	16.3	0.13	0.006	7.09	2160	0.05
21	0.05	0.005	0.01	0.017	0.006	0.1	4.13	0.15	0.022	7.14	2280	0.05
22	0.05	0.005	0.021	0.034	0.014	0.5	7.51	0.15	0.044	6.85	2180	0.05
23	0.007	0.012	0.019	0.013	0.005	0.2	16.2	0.11	0.015	7.02	1993	0.05
mean	0.007193	0.00375	0.006818	0.133068	0.080591	0.068591	8.639318	0.055455	0.091273	6.949091	1501.273	0.030263
sd	0.013898	0.002303	0.004521	0.186678	0.137505	0.108162	5.029504	0.048352	0.135387	0.469284	605.5814	0.010471
var	0.000193	5.3E-06	2.04E-05	0.034849	0.018908	0.011699	25.29591	0.002338	0.01833	0.220228	366728.8	0.00011
slope	0.001007	0.000174	0.00042	-0.012964	-0.007492	0.007887	0.071477	0.006326	-0.00709	-0.013434	78.92767	0.001316

Monitoring Well 41												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.011	0.0025	0.055	0.05	0.066	0.055	15.4	0.02	0.315	6.8	983	
2	0.028	0.0025	0.123	0.108	0.088	0.012	55	0.02	0.437	6.75	2630	.
3	0.011	0.0025	0.061	0.057	0.046	0.01	41.7	0.01	0.239	6.86	902	
4	0.006	0.0025	0.044	0.044	0.026	0.01	3.23	0.005	0.148	6.89	2450	
5	0.007	0.0025	0.06	0.059	0.066	0.01	14.8	0.02	0.197	6.91	2180	0.06
6	0.006	0.0025	0.018	0.024	0.018	0.01	14.2	0.01	0.08	6.9	1341	0.025
7	0.009	0.0025	0.034	0.04	0.029	0.01	22.8	0.02	0.16	6.9	1832	0.025
8	0.019	0.0025	0.075	0.076	0.027	0.01	21	0.01	0.286	6.77	2080	0.09
9	0.017	0.0025	0.059	0.05	0.047	0.01	30.6	0.01	0.213	6.28	711	0.06
10	0.011	0.0025	0.048	0.036	0.028	0.0025	26.4	0.03	0.245	6.85	1770	0.06
11	0.016	0.0025	0.087	0.064	0.071	0.01	22.1	0.01	0.271	6.75	1585	0.1
12	0.009	0.0025	0.034	0.035	0.032	0.01	19.8	0.02	0.127	6.79	2220	0.025
13	0.011	0.0025	0.029	0.026	0.019	0.0025	14.8	0.02	0.099	6.52	1761	0.025
14	0.0025	0.0025	0.005	0.012	0.0025	0.0025	15.8	0.01	0.046	6.88	15.86	0.025
15	0.0025	0.0025	0.005	0.0025	0.0025	0.0025	15.9	0.01	0.016	6.92	1854	0.025
16	0.0025	0.0025	0.005	0.041	0.012	0.01	4.05	0.01	0.033	7.16	2240	0.025
17	0.0025	0.0025	0.005	0.005	0.005	0.006	10	0.01	0.014	6.93	954	0.025
18	0.0025	0.0025	0.005	0.012	0.005	0.02	5.93	0.02	0.031	6.84	1418	0.1
19										6.78	875	
20	0.005	0.012	0.016	0.005	0.005	0.1	20.6	0.01	0.029	6.91	1861	0.05
21	0.005	0.005	0.01	0.007	0.005	1	1.93	0.03	0.018	6.86	1943	0.05
22	0.005	0.008	0.01	0.009	0.005	1	23	0.01	0.012	6.81	1786	0.05
23	0.005	0.006	0.01	0.006	0.005	0.2	35.3	0.02	0.016	6.82	1622	0.05
mean	0.008795	0.003455	0.036273	0.034932	0.027727	0.113773	19.74273	0.015227	0.137818	6.82087	1609.298	0.048333
sd	0.006497	0.00238	0.032073	0.027535	0.025777	0.290308	12.73905	0.006983	0.122456	0.16189	630.5592	0.026402
var	4.22E-05	5.66E-06	0.001029	0.000758	0.000664	0.084279	162.2833	4.88E-05	0.014996	0.026208	397604.9	0.000697
slope	-0.000552	0.000207	-0.003417	-0.003143	-0.002915	0.022733	-0.561518	6.93E-05	-0.014667	0.003132	-8.972609	-0.000144

Monitoring Well 43												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.0025	0.0025	0.005	0.162	0.016	0.0025	6.11	0.005	0.155	7.12	631	
2	0.0025	0.0025	0.005	0.106	0.017	0.005	14	0.005	0.111	7.01	698	
3	0.0025	0.0025	0.065	0.0025	0.0025	0.025	23.2	0.005	0.019	6.98	416	
4	0.0025	0.0025	0.005	0.011	0.0025	0.01	18.2	0.01	0.009	7.25	672	
5	0.0025	0.0025	0.005	0.022	0.0025	0.01	6.51	0.02	0.028	7.34	629	0.025
6	0.0025	0.0025	0.005	0.078	0.0025	0.01	2.58	0.02	0.011	7.2	401	0.16
7	0.0025	0.0025	0.005	0.017	0.0025	0.01	14.2	0.005	0.0025	7.28	449	0.025
8	0.0025	0.0025	0.005	0.201	0.0025	0.01	12.6	0.01	0.027	7.22	477	0.26
9	0.0025	0.0025	0.005	0.354	0.0025	0.01	10.7	0.005	0.022	6.27	385	0.4
10	0.0025	0.0025	0.005	0.48	0.0025	0.0025	24.4	0.02	0.045	7.08	437	0.36
11	0.0025	0.0025	0.005	0.377	0.007	0.01	6.17	0.005	0.05	7.2	496	0.07
12	0.0025	0.0025	0.005	0.226	0.0025	0.01	7.87	0.03	0.025	7.24	511	0.025
13	0.0025	0.0025	0.005	0.415	0.0025	0.0025	4.68	0.005	0.026	6.97	498	0.07
14	0.0025	0.0025	0.005	0.238	0.0025	0.0025	4.96	0.005	0.043	7.07	469	0.24
15	0.0025	0.0025	0.005	0.2	0.0025	0.25	7.78	0.01	0.027	7.19	4.79	0.05
16	0.0025	0.0025	0.005	0.076	0.0025	0.1	5.53	0.01	0.008	7.4	532	0.05
17	0.0025	0.0025	0.005	0.079	0.0025	0.005	4.95	0.01	0.013	6.51	477	0.05
18	0.0025	0.0025	0.005	0.324	0.0025	0.02	3.55	0.02	0.019	7.2	372	0.16
19	0.0025	0.0025	0.005	0.696	0.0025	0.01	8.66	0.01	0.046	7.06	491	0.12
20	0.005	0.005	0.01	0.084	0.005	0.1	3.63	0.01	0.008	7.02	532	0.05
21	0.005	0.005	0.01	0.182	0.005	0.1	1.08	0.01	0.028	7.1	544	0.21
22												
23												
mean	0.002738	0.002738	0.008333	0.206214	0.004286	0.033571	9.112381	0.010952	0.034405	7.081429	481.99	0.136765
sd	0.000752	0.000752	0.01307	0.180449	0.004233	0.059511	6.490055	0.007003	0.036067	0.26014	141.4695	0.119425
var	5.65E-07	5.65E-07	0.000171	0.032562	1.79E-05	0.003542	42.12082	4.9E-05	0.001301	0.067673	20013.62	0.014262
slope	6.17E-05	6.17E-05	-0.0005	0.011408	-0.000283	0.004065	-0.564	0.000143	-0.002444	-0.003961	-7.301091	-0.00337

Monitoring Well 44R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	NI
1	0.012	0.0025	0.113	0.151	0.108	0.0025	17	0.03	0.728	6.95	1752	
2	0.009	0.0025	0.133	0.137	0.116	0.022	19	0.04	0.581	7.09	2700	
3	0.005	0.0025	0.061	0.058	0.052	0.06	23.9	0.03	0.261	6.94	1772	
4	0.00425	0.0025	0.048	0.0535	0.0325	0.01	9.775	0.005	0.203			
5	0.005	0.0025	0.072	0.064	0.057	0.01	6.95	0.03	0.253	7.09	2120	0.09
6	0.006	0.0025	0.056	0.057	0.033	0.01	10.2	0.04	0.268	7.05	2880	0.07
7	0.013	0.0025	0.064	0.051	0.036	0.01	19.2	0.04	0.24	7.16	3730	0.07
8	0.005	0.0025	0.157	0.136	0.082	0.01	19.7	0.02	0.525	7.16	3480	0.18
9	0.007	0.0025	0.121	0.079	0.086	0.01	49	0.02	0.402	6.99	16.31	0.15
10	0.011	0.0025	0.094	0.099	0.079	0.0025	27.9	0.03	0.417	7.12	3190	0.14
11	0.007	0.006	0.142	0.089	0.093	0.01	26.6	0.02	0.439	6.91	2830	0.18
12	0.008	0.0025	0.094	0.076	0.071	0.02	23.5	0.02	0.291	7.41	3280	0.1
13	0.01	0.0025	0.088	0.067	0.061	0.0025	6.06	0.01	0.306	6.66	3010	0.11
14	0.0025	0.0025	0.005	0.007	0.0025	0.0025	8.17	0.04	0.027	5.6	3210	0.025
15	0.0025	0.0025	0.005	0.005	0.0025	0.0025	5.53	0.01	0.026	7.04	4350	0.025
16	0.0025	0.0025	0.005	0.005	0.005	0.01	6.55	0.02	0.005	6.57	3850	0.025
17	0.0025	0.0025	0.005	0.008	0.007	0.007	1.11	0.01	0.062	7.03	3660	0.025
18	0.0025	0.0025	0.019	0.009	0.01	0.02	3.35	0.04	0.062	6.96	3080	0.025
19	0.0025	0.0025	0.005	0.005	0.005	0.03	8.77	0.02	0.007	6.95	5120	0.06
20	0.005	0.016	0.024	0.011	0.006	0.1	10.3	0.02	0.066	7.16	5830	0.07
21	0.05	0.006	0.01	0.008	0.006	0.1	3.01	0.06	0.036	6.93	6010	0.05
22	0.05	0.008	0.01	0.011	0.005	1	16.9	0.02	0.059	7.11	3750	0.05
23	0.005	0.005	0.01	0.005	0.005	0.2	31.5	0.09	0.009	7.06	4240	0.05
mean	0.00988	0.003739	0.058304	0.051804	0.041761	0.071804	15.39022	0.028913	0.229261	6.951818	3357.287	0.078684
sd	0.013053	0.003074	0.050876	0.047358	0.03844	0.207592	11.43486	0.018584	0.209106	0.347023	1338.793	0.05185
var	0.00017	9.45E-06	0.002588	0.002243	0.001478	0.043095	130.7561	0.000345	0.043725	0.120425	1792367	0.002688
slope	0.000608	0.000216	-0.005126	-0.005458	-0.004209	0.013031	-0.402302	0.000603	-0.023932	-0.004957	140.0318	-0.00514

Monitoring Well 46													
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni	
1	0.0025	0.0025	0.005	0.0025	0.0025	0.0025	4.61	0.03	0.031	7.4	346		
2	0.0025	0.0025	0.005	0.0125	0.014	0.00475	5.135	0.0075	0.0645	7.11	432		
3	0.0025	0.0025	0.005	0.025	0.005	0.025	11.2	0.01	0.042	7.16	318		
4	0.0025	0.0025	0.005	0.008	0.0025	0.01	12.8	0.005	0.033	7.42	414		
5	0.0025	0.0025	0.005	0.01	0.0025	0.01	5.98	0.01	0.013	7.38	433	0.025	
6	0.0025	0.0025	0.005	0.005	0.0025	0.01	5.33	0.01	0.007	7.34	324	0.025	
7	0.0025	0.0025	0.005	0.008	0.0025	0.04	6.36	0.005	0.023	7.35	421	0.025	
8	0.0025	0.0025	0.005	0.005	0.0025	0.01	7.02	0.01	0.006	7.42	414	0.025	
9	0.0025	0.0025	0.005	0.005	0.0025	0.01	15.2	0.005	0.013	7.07	352	0.025	
10	0.0025	0.0025	0.005	0.007	0.0025	0.0025	10.7	0.01	0.0025	7.27	377	0.025	
11	0.0025	0.0025	0.005	0.006	0.003	0.01	4.31	0.005	0.013	7.25	451	0.025	
12	0.0025	0.0025	0.005	0.01	0.0025	0.01	2.2	0.005	0.009	7.44	434	0.025	
13	0.0025	0.0025	0.005	0.005	0.0025	0.0025	4.74	0.01	0.021	7.11	4.1	0.025	
14	0.0025	0.0025	0.005	0.009	0.0025	0.0025	1.43	0.005	0.011	7.35	398	0.025	
15	0.0025	0.006	0.005	0.0025	0.0025	0.0025	8.33	0.005	0.0025	7.36	425	0.025	
16	0.0025	0.0025	0.005	0.0025	0.0025	0.02	2.13	0.01	0.006	6.61	4.29	0.025	
17	0.0025	0.0025	0.005	0.0025	0.0025	0.006	4.17	0.01	0.019	5.47	412	0.025	
18	0.0025	0.0025	0.005	0.0025	0.0025	0.02	2.73	0.01	0.005	7.38	338	0.025	
19	0.0025	0.0025	0.005	0.0025	0.0025	0.01	9.26	0.01	0.005	7.36	423	0.025	
20	0.005	0.01	0.01	0.005	0.005	0.1	0.5	0.01	0.005	7.4	494	0.05	
21	0.005	0.005	0.01	0.005	0.005	0.1	0.83	0.01	0.01	7.25	461	0.05	
22													
23													
mean	0.002738	0.003143	0.005476	0.00669	0.003429	0.01944	5.950714	0.009167	0.016262	7.185714	365.4948	0.027941	
sd	0.000752	0.001818	0.001504	0.005112	0.00258	0.028265	4.037829	0.005323	0.015442	0.435678	128.642	0.008303	
var	5.65E-07	3.3E-06	2.26E-06	2.61E-05	6.66E-06	0.000799	16.30407	2.83E-05	0.000238	0.189816	16548.77	6.89E-05	
slope	6.17E-05	0.000138	0.000123	-0.000423	-9.87E-05	0.002115	-0.299604	-0.000198	-0.001625	-0.016364	-0.492662	0.000919	

Monitoring Well 47R												
Quarter	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
1	0.021	0.0025	0.025	0.0755	0.0525	0.0025	5.83	0.02	0.222	6.83	1498	
2	0.033	0.0025	0.063	0.14	0.073	0.01	7.92	0.01	0.379	6.98	1596	
3	0.077	0.0025	0.12	0.164	0.127	0.025	37.9	0.02	0.49	6.89	1034	
4	0.053	0.0025	0.161	0.155	0.074	0.01	5.9	0.01	0.522	7.12	1404	
5	0.054	0.0025	0.246	0.173	0.103	0.01	13.6	0.01	0.789	7.23	1382	0.21
6	0.1395	0.011	0.504	0.39	0.275	0.01	17.7	0.02	1.81	7.08	818	0.48
7	0.088	0.006	0.178	0.21	0.096	0.01	62.9	0.01	0.784	7.19	1047	0.18
8	0.132	0.016	0.57	0.49	0.32	0.1	16.2	0.01	2.31	7.09	1466	0.6
9	0.127	0.01	0.443	0.293	0.342	0.01	55.8	0.01	1.43	7.05	738	0.37
10	0.179	0.007	0.294	0.286	0.25	0.004	40.3	0.02	1.3	7.19	1311	0.31
11	0.112	0.011	0.425	0.283	0.279	0.01	40.6	0.02	1.41	6.88	1259	0.39
12	0.132	0.006	0.235	0.251	0.242	0.065	31.1	0.01	0.996	7.17	1611	0.22
13	0.105	0.006	0.173	0.282	0.221	0.0025	13	0.01	0.914	7.13	1362	0.25
14	0.009	0.0025	0.005	0.0025	0.0025	0.0025	5.18	0.005	0.014	6.2	1225	0.025
15	0.017	0.0025	0.005	0.0025	0.01	0.0025	13.5	0.01	0.065	7.05	1570	0.025
16	0.011	0.0025	0.005	0.0025	0.005	0.1	10.9	0.02	0.021	6.47	1906	0.025
17	0.011	0.0025	0.005	0.0025	0.008	0.005	4.76	0.01	0.016	6.18	1624	0.025
18	0.015	0.0025	0.005	0.0025	0.006	0.02	2.23	0.02	0.017	7.08	1010	0.025
19	0.018	0.0025	0.005	0.0025	0.007	0.01	9	0.02	0.015	7.03	1548	0.025
20	0.016	0.005	0.01	0.005	0.005	0.1	12.3	0.01	0.011	6.97	1719	0.05
21	0.05	0.006	0.01	0.008	0.006	0.1	3.17	0.01	0.036	7.08	1379	0.05
22	0.05	0.007	0.01	0.008	0.005	1	8.5	0.02	0.013	7.2	946	0.05
23	0.005	0.005	0.01	0.005	0.005	0.2	19	0.01	0.007	7.18	884	0.05
mean	0.063239	0.00537	0.152478	0.140587	0.109304	0.078652	19.01261	0.013696	0.590043	6.968261	1319	0.176842
sd	0.052845	0.003666	0.182197	0.147454	0.120199	0.207127	17.22105	0.005269	0.677733	0.295245	310.8221	0.179886
var	0.002793	1.34E-05	0.033196	0.021743	0.014448	0.042902	296.5647	2.78E-05	0.459322	0.08717	96610.36	0.032359
slope	-0.003053	-3.46E-05	-0.012691	-0.012495	-0.008279	0.01331	-0.763202	-2.96E-05	-0.049935	-0.004051	1.736166	-0.023974

Slope Values for Shallow Aquifer Monitoring Wells

Well	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
11A	+.00046	+.00020	+.00016	-.00120	-.00034	+.0118	-.3962	+.70E-5	-.0011	+.00597	+34.932	-.00141
12	+.00025	-.00335	+.00041	-.219	+.87E-6	+.0221	-.157	+.00043	-.0345	-.0263	+36.46	-.3963
16	+.0020	-.006114	+.00033	-.00187	+.00063	+.0547	-.6562	+.0216	+.0314	+.00416	+178.36	-4.177
19R	-.00152	+.00053	-.01910	-.0171	-.01342	+.0198	-.14613	+.00034	-.06430	+.00329	+7.7836	-.01514
25	+.00068	+.00837	-.000126	-.000534	-.000259	+.0151	-.6266	+.00270	-.0357	-.0240	+139.83	+.0604
27	+.00093	+.0466	+.00017	-.00266	-.000551	+.05377	-.1.182	+.0744	+.2597	+.00317	+667.79	+.2377
28	-.00016	-.00529	-.00417	-.0773	-.000508	+.00912	-.7290	-.8.89E-05	-.1513	+.00666	+28.704	-4.412
29	-.000263	+.00018	-.00014	-.004908	-.004476	+.01358	-.4657	+.00046	-.0107	-.000662	+3.20	+.00448
31A	+.0197	-.04983	-.00213	-.6238	-.01339	+.0138	-.0799	-.001038	-.1.509	+.01239	-58.064	-2.3552
41	-.000552	+.00020	-.003417	-.003143	-.00292	+.02273	-.5615	+.6.9E-5	-.01466	+.00313	-8.9726	-.000144

Slope Values for Upper Regional Aquifer Monitoring Wells

Well	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
11	+7.1E-5	+0.00013	+0.00016	-0.00022	-0.000187	+0.00296	-6497	-6.49E-5	-0.00029	+0.00737	-39.538	+1.6 E-5
26	+6.3E-5	+0.00020	+0.00022	-0.00023	+3.2E-5	+0.01629	-7491	+0.0054	-5.3E-5	-0.02013	+341.81	+0.00177
44R	+0.000608	+0.00021	-0.005126	-0.005458	-0.00421	+0.01303	-4023	+0.00060	-0.02393	-0.004957	+140.03	-0.00514
1A	-0.000174	+0.00012	+5.3E-5	-0.00369	-0.003378	+0.00254	-3789	+0.00083	-0.004473	-0.012662	+79.690	+0.00092
33	+0.001013	+0.00019	-0.000948	-0.004851	-0.005152	+0.00725	-1508	+0.00023	-0.01775	-0.00786	+130.56	+0.00041
34	+0.000168	-3.5E-5	-0.004069	-0.02184	-0.008759	+0.01506	-4352	-0.001013	-0.05043	-0.006896	-87.0909	+0.00143
35	+0.000854	+6.9E-5	-0.000501	-0.001954	-0.001496	+0.02039	-30358	+0.00148	-0.004376	-0.01909	+88.297	+0.00061
37R	+0.00111	-8.0E-5	-0.00064	-0.0119	-0.00079	+0.05821	+2550	+0.00335	-0.01545	-0.01906	+123.01	+0.00060
47R	-0.003053	-3.5E-5	-0.01269	-0.012495	-0.00828	+0.01331	-7632	-2.96E-5	-0.049935	-0.004051	+1.7361	-0.023974

Slope Values for Lower Regional Aquifer Monitoring Wells

Well	As	Cd	Cr	Cu	Pb	Sn	TOC	TOX	Zn	pH	SC	Ni
43	+6.2E-5	+6.2E-5	-.0005	+.01141	-.000283	+.00407	-.564	+.00014	-.00244	-.00396	-7.301	-.00337
46	+6.2E-5	+.00013	+.00012	-.000423	-9.9E-5	+.00211	-.2996	-.000198	-.001625	-.016364	.492662	+.00092
36R	+.00054	+.00023	+.00019	-.000267	-.000293	+.00950	+.0613	-3.46E-5	-.000785	-.001107	+4.783	+.00131
39R	+.00100	+.00017	+.00042	-.012964	-.007492	+.00788	+.07147	+.00632	-.00709	-.01343	+78.927	+.00132

Slope Value Summary for the Shallow Aquifer

Total of All Test Parameters ²				Metals Only			
Well	+	-	0	+	-	0	Trend ³
11A	6	5	0	4	4	0	equilibrium
12	6	5	0	4	4	0	equilibrium
16	7	4	0	5	3	0	increasing
19R	4	7	0	2	6	0	decreasing
25	6	5	0	4	4	0	equilibrium
27	8	3	0	6	2	0	increasing
28	2	9	0	1	7	0	decreasing
29	5	6	0	3	5	0	decreasing
31A	2	9	0	2	6	0	decreasing
41	3	8	0	2	6	0	decreasing
Total ¹	49	61	0	33	47	0	decreasing

¹ Total number of positive, negative or zero slope values for downgradient wells only.

² pH excluded.

³ Trends are determined in the following manner:

- A “decreasing” trend is assigned when there are more negative linear regression slopes than positive for metal parameters, thus indicating the well water quality is improving.
- A “increasing” trend is assigned when there are more positive linear regression slopes than negative for metal parameters, thus indicating the well water quality is getting worse.
- A trend of “equilibrium” is assigned to a well when there are an equal number of positive and negative linear regression slopes for metal parameters.

Slope Value Summary for the Upper Regional Aquifer

Total of All Test Parameters ²				Metals Only			
Well	+	-	0	+	-	0	Trend ³
11	5	6	0	5	3	0	increasing
26	8	3	0	6	2	0	increasing
44R	5	6	0	3	5	0	decreasing
1A	6	5	0	4	4	0	equilibrium
33	6	5	0	4	4	0	equilibrium
34	3	8	0	3	5	0	decreasing
35	6	5	0	4	4	0	equilibrium
37R	6	5	0	3	5	0	decreasing
47R	2	9	0	1	7	0	decreasing
Total ¹	47	52	0	33	39	0	decreasing

¹ Total number of positive, negative or zero slope values for downgradient wells only.

² pH excluded.

³ Trends are determined in the following manner:

- A “decreasing” trend is assigned when there are more negative linear regression slopes than positive for metal parameters, thus indicating the well water quality is improving.
- A “increasing” trend is assigned when there are more positive linear regression slopes than negative for metal parameters, thus indicating the well water quality is getting worse.
- A trend of “equilibrium” is assigned to a well when there are an equal number of positive and negative linear regression slopes for metal parameters.

Slope Value Summary for the Lower Regional Aquifer

Total of All Test Parameters ²				Metals Only			
Well	+	-	0	+	-	0	Trends ³
43	5	6	0	4	4	0	equilibrium
46	5	6	0	5	3	0	increasing
36R	7	4	0	5	3	0	increasing
39R	8	3	0	5	3	0	increasing
Total ¹	25	19	0	19	13	0	increasing

¹ Total number of positive, negative or zero slope values for downgradient wells only.

² pH excluded.

³ Trends are determined in the following manner:

- A “decreasing” trend is assigned when there are more negative linear regression slopes than positive for metal parameters, thus indicating the well water quality is improving.
- A “increasing” trend is assigned when there are more positive linear regression slopes than negative for metal parameters, thus indicating the well water quality is getting worse.
- A trend of “equilibrium” is assigned to a well when there are an equal number of positive and negative linear regression slopes for metal parameters.

Sheet1

SIDS System Pumping Records for 1997														
Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date
Jan.	1				Feb.	1				Mar.	1			
	2					2					2			
	3					3					3			
	4					4					4			
	5					5					5			
	6					6					6			
	7					7					7			
	8					8					8			
	9					9					9			
	10					10					10	6276		
	11					11					11	6276		
	12					12					12	6276.9	54	1620
	13					13					13			
	14					14					14	6306.4	1770	53100
	15					15					15	6330.2	1428	42840
	16					16					16	6353.9	1422	42660
	17	481.1				17					17	6378.4	1470	44100
	18					18					18	6402.3	1434	43020
	19					19					19	6425.8	1410	42300
	20					20					20	6450.4	1476	44280
	21	1244.8				21					21	6474.3	1434	43020
	22					22					22	6498.5	1452	43560
	23					23					23	6522.4	1434	43020
	24					24					24	6545.9	1410	42300
	25					25					25	6569.9	1440	43200
	26					26					26	6593.9	1440	43200
	27					27					27	6618.1	1452	43560
	28					28					28	6637	1134	34020
	29										29	6666.7	1782	53460
	30										30	6690.5	1428	42840
	31										31	6713.3	1368	41040
														787140

Sheet1

SIDS System Pumping Records for 1997														
Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date
Apr.	1	6737.4	1446	43380	May	1	7225.7			Jun.	1	7752.8	1410	42300
	2	6737.4				2	7288.1	4344	130320		2	7777.1	1458	43740
	3	6737.4				3	7322.4	1458	43740		3	7800.7	1416	42480
	4	6737.4				4	7344.4	1320	39600		4	7823	1338	40140
	5	6737.4				5	7370.3	1554	46620		5	7848.9	1554	46620
	6	6737.4				6	7393.9	1416	42480		6	7873.3	1464	43920
	7	6737.4				7	7418.2	1458	43740		7	7887.6	858	25740
	8	6737.4				8	7437.7	1170	35100		8	7905.6	1080	32400
	9	6737.4				9	7437.7				9	7929.6	1440	43200
	10	6737.4				10	7437.7				10	7953.7	1446	43380
	11	6737.4				11	7437.7				11	7977.7	1440	43200
	12	6737.4				12	7437.8	6	180		12	8001.6	1434	43020
	13	6737.4				13	7437.8				13	8025.6	1440	43200
	14	6737.4				14	7437.8				14	8049.6	1440	43200
	15	6737.4				15	7437.8				15	8072.7	1386	41580
	16	6737.4				16	7437.8				16	8097.8	1506	45180
	17	6737.4				17	7438.1	18	540		17	8121.4	1416	42480
	18	6737.4				18	7438.1				18	8145.7	1458	43740
	19	7104.3	22014	660420		19	7441.4	198	5940		19	8169.7	1440	43200
	20	7104.3				20	7459.4	1080	32400		20	8193.6	1434	43020
	21	7104.3				21	7489.3	1794	53820		21	8193.6		
	22	7104.3				22	7513.7	1464	43920		22	8241.6	2880	86400
	23	7104.3				23	7537.8	1446	43380		23	8265.5	1434	43020
	24	7106.4	128	3780		24	7561.5	1422	42680		24	8289.5	1440	43200
	25	7130.2	1428	42840		25	7585.4	1434	43020		25	8313.7	1452	43560
	26	7155.2	1500	45000		26	7609.4	1440	43200		26	8337.8	1434	43020
	27	7155.2				27	7633.5	1446	43380		27	8361.6	1440	43200
	28	7202.2	2820	84600		28	7657.5	1440	43200		28	8385.5	1434	43020
	29	7225.7	1410	42300		29	7680.9	1404	42120		29	8409.6	1446	43380
	30	7225.7				30	7680.9				30	8430.8	1272	38160
				922320		31	7729.3	2904	87120					1262700

Sheet1

SIDS System Pumping Records for 1997														
Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date
Jul.	1	8430.8			Aug.	1	9129.2	1434	43020	Sep.	1	9446.3	1404	42120
	2	8430.8				2	9152.1	1374	41220		2	9477.8	1890	56700
	3	8433.5	162	4860		3	9152.1				3	9495	1032	30960
	4	8457.6	1446	43380		4	9152.1				4	9519.1	1446	43380
	5	8457.6				5	9152.1				5	9543	1434	43020
	6	8505.5	2874	86220		6	9152.1				6	9567	1440	43200
	7	8529.3	1428	42840		7	9152.1				7	9590	1380	41400
	8	8553	1422	42660		8	9152.1				8	9614.9	1494	44820
	9	8577.3	1458	43740		9	9152.1				9	9638.9	1440	43200
	10	8601.3	1440	43200		10	9152.1				10	9662.6	1422	42660
	11	8625.4	1446	43380		11	9152.1				11	9687.4	1488	44640
	12	8649.3	1434	43020		12	9152.1				12	9711.9	1470	44100
	13	8671.4	1326	39780		13	9152.1				13	9735.1	1392	41760
	14	8696.2	1488	44640		14	9152.1				14	9759	1434	43020
	15	8721.2	1500	45000		15	9152.1				15	9782.9	1434	43020
	16	8745.3	1446	43380		16	9152.1				16	9806.9	1440	43200
	17	8769.2	1434	43020		17	9152.1				17	9831.3	1464	43920
	18	8783.4	1452	43560		18	9152.1				18	9854.9	1416	42480
	19	8817.4	1440	43200		19	9152.1				19	9877	1326	39780
	20	8839.1	1302	39060		20	9159.9	468	14040		20	9903	1560	46800
	21	8865	1554	46620		21	9159.9				21	9927.1	1446	43380
	22	8889.3	1458	43740		22	9207	2826	84780		22	9927.1		
	23	8913.4	1446	43380		23	9207				23	9975	2874	86220
	24	8937.3	1434	43020		24	9207				24	9998.9	1434	43020
	25	8961.5	1452	43560		25	9279.2	4332	129980		25	10023	1386	41580
	26	8985.3	1428	42840		26	9302.7	1410	42300		26	10046.8	1428	42840
	27	8985.3				27	9327	1458	43740		27	100071	1452	43560
	28	9033.1	2868	86040		28	9351	1440	43200		28	10094.9	1434	42020
	29	9057.2	1446	43380		29	9374.9	1434	43020		29	10114.8	1194	35820
	30	9081.3	1446	43380		30	9398.9	1440	43200		30	10142.9	1686	50580
	31	9105.3	1440	43200		31	9422.9	1440	43200					
				1214100					571680					1293200

Sheet1

SIDS System Pumping Records for 1997														
Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date	Month	Day	Hour Meter	Gal/Day	Gal/Month to Date
Oct.	1	10166.8	1434	43020	Nov.	1	10527.6	1434	43020	Dec.	1	11244.8	1278	38340
	2	10191.2	1484	43920		2	10551.6	1440	43200		2	11249.4	276	8280
	3	10214.7	1410	42300		3	10575.6	1440	43200		3	11249.4		
	4	10238.8	1446	43380		4	10599.6	1440	43200		4	11249.4		
	5	10262.7	1434	43020		5	11623.6	1440	43200		5	11249.4		
	6	10287.3	1476	44280		6	10647.6	1440	43200		6	11249.4		
	7	10287.3				7	10671.7	1446	43380		7	11249.4		
	8	10335	2862	85860		8	10695.4	1422	42660		8	11249.4		
	9	10359.8	1488	44840		9	10719.6	1452	43560		9	11249.4		
	10	10382.8	1380	41400		10	10767.4	2888	86040		10	11249.4		
	11	10406.8	1440	43200		11	10767.4				11	11249.4		
	12	10430.8	1440	43200		12	10791.5	1446	43380		12	11249.4		
	13	10450.8	1200	36000		13	10815.5	1440	43200		13	11249.4		
	14	10450.8				14	10839.6	1446	43380		14	11249.4		
	15	10450.8				15	10863.4	1428	42840		15	11249.4		
	16	10457.2	384	11520		16	10888.8	1392	41760		16	11249.5	6	180
	17	10481.1	1434	43020		17	10911.5	1494	44820		17	11253.8	258	7740
	18	10501.2	1206	36180		18	10911.5				18	11277.9	1446	43380
	19	10501.2				19	10956.6	2706	81180		19	11301.4	1410	42300
	20	10501.2				20	10888.5	1914	57420		20	11325.4	1440	43200
	21	10501.2				21	11007.5	1140	34200		21	11349.4	1440	43200
	22	10501.2				22	11031.8	1446	43380		22	11373.1	1422	42660
	23	10501.2				23	11055.5	1434	43020		23	11388.6	830	27900
	24	10501.2				24	11079.4	1434	43020		24	11388.6		
	25	10501.2				25	11079.4				25	11388.6		
	26	10501.2				26	11127.5	2888	86580		26	11390.8	132	3960
	27	10501.2				27	11151.5	1440	43200		27	11414.8	1440	43200
	28	10501.2				28	11175.4	1434	43020		28	11438.6	1428	42840
	29	10501.2				29	11189.5	1446	43380		29	11472.8	2052	61560
	30	10501.2				30	11223.5	1440	43200		30	11480.4	456	13680
	31	10503.7	150	4500							31	11480.4		
				649440					1295640					462420